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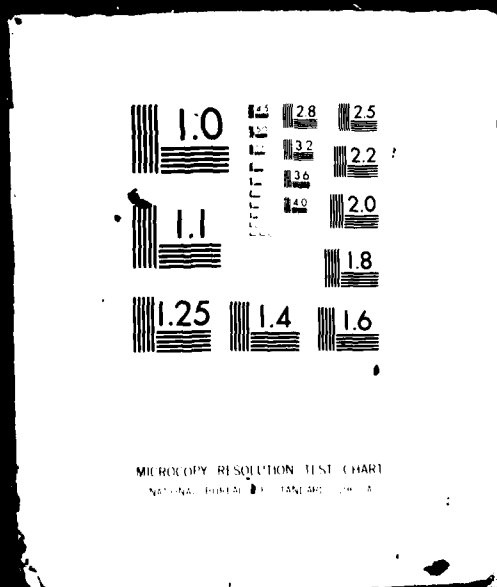
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F-16 AIRCREW TRAINING DEVELOPMENT PROJECT

Contract No. F02604-79-C8875

F-16 COURSEWARES AND SYLLABI
DELIVERY SCHEDULE

DEVELOPMENT REPORT No. 24

MARCH 1981

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Prepared in fulfillment of CDRL no. B056

by

10 D.R./Farrow
K/King
Courseware, Inc.

COURSEWARE, INC. ✓
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PREFACE

This report was created for the F-16 Aircrew Training Development Project contract no. F02604-79-C8875 for the Tactical Air Command to comply with the requirements of CDRL no. 8056. The project entailed the design and development of an instructional system for the F-16 RTU and instructor pilots. During the course of the project, a series of development reports was issued describing processes and products. A list of those reports follows this page. The user is referred to Report No. 34, A Users Guide to the F-16 Training Development Reports, for an overview and explanation of the series, and Report No. 35, F-16 Final Report, for an overview of the Instructional System Development Project.

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F-16 AIRCREW TRAINING
DEVELOPMENT PROJECT REPORTS

Copies of these reports may be obtained by writing the Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22314. All reports were reviewed and updated in March 81.

Gibbons, A.S., Rolnick, S.J., Mudrick, D. & Farrow, D.R. Program work plan (F-16 Development Report No. 1). San Diego, Calif.: Courseware, Inc., September 1977, March 1981.

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EXECUTIVE SUMMARY

This document performs the two-fold purpose of (1) describing the schedule whereby all course materials will be delivered to the Air Force and (2) presenting the B course syllabus that will be utilized to schedule the presentation of those course materials to the RTU students. It represents a historical document only, reflecting a delivery schedule proposed in 1979 and the latest version of the syllabus available in early 1981. It was significant as a deliverable item in 1979, as it documented for the Air Force precisely what it was getting and when it would be arriving.

This document describes the development of four separate courses with unique syllabi: the B/C course, TX course, IP course, and continuation training course. This original contractor requirement was subsequently reduced to include a B course only, so the IP and TX syllabi included represent primarily the efforts of the OTDT, while the continuation training requirement was deleted altogether.

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F-16 COURSEWARES AND SYLLABI DELIVERY SCHEDULE

1.0 INTRODUCTION

This report contains a description of the schedule for delivery of syllabi and coursewares for the F-16 pilot training system. The training system includes a basic pilot training course in two versions and an instructor pilot (IP) training course. The two versions of the pilot training course are:

1. The F-16 B/C (basic/conversion) course for pilots who have just completed Lead-in Training, and for individuals converting from assignments as instructors in undergraduate pilot training (UPT) to assignments as F-16 pilots;
2. For F-16 TX (transition) course for pilots who have already acquired mission-ready competencies in other aircraft.

Graduates of the B/C course will be assigned to operational units where they will receive additional training and experience with the F-16 aircraft and weapons system by participating in a continuation training course.

The purpose of this report is to provide Tactical Air Command (TAC) with a proposed schedule for delivery of syllabi and coursewares for the above mentioned versions of the F-16 pilot training system. The schedule for each version of the training system will be addressed separately in this report.

2.0 F-16 B/C COURSE SYLLABI AND COURSEWARE DELIVERY SCHEDULE

The F-16 B/C course syllabus is complete and is presented in Attachment I. The syllabus was developed assuming availability of an Operational Flight Trainer (OFT), but not Dynamic System's Simulator (DSS) or the Advanced Simulator for Pilot Training (ASPT). Modification of this basic syllabus to meet the needs of specific and changing training device availability is the responsibility of the F-16 Operations Training Development (OTD) team.

For the purposes of materials development and production, the B/C course has been divided into seven phases: Conversion, navigation, intercept, basic fighter maneuvers (BFM), air combat

maneuvers (ACM), surface attack (SA), and surface attack tactics (SAT). Each phase of the course consists of a series of instructional segments to be accomplished by the student. An instructional segment is made up of a series of related instructional objectives to be taught at one time in one type of media. These segments will be adjusted and revised throughout the development and production cycle. These revisions become necessary as a more complete understanding of the nature of the content required in each segment emerges. Revisions will normally consist of combining segments, breaking one segment into two or more, adjusting the media selection for a given segment, or adjusting the wording of the instructional objectives to be accomplished.

These revisions are accomplished in a systematic and orderly fashion. All recommended revisions are made to the project data base manager, who evaluates the change and obtains the approval of the project director, the F-16 OTD team chief, and the quality assessment evaluator (QAE). The approved changes are then entered into the project's computerized data base. An updated copy of this segment list can be made available to TAC at any time during the development/production cycle.

The development and production period for the B/C course will run from August 1, 1979 through July 11, 1980. During this period of time 191 segments are projected to be produced. The first course will begin on March 15, 1980. Because all production cannot be completed by that date the segments will be produced in the same general sequence as they are taught. This will allow time for all segments to be completed prior to the date they are taught. This will also allow TAC the opportunity to incorporate and use the segments in courses that are being taught prior to the first B/C course.

The proposed schedule for delivery of this course is contained in Table 1. As indicated above, all segments will be delivered as they are completed. Therefore, this table represents a "not later than" (NLT) schedule. For example, the NLT date for delivery of conversion is January 25, 1980. However, conversion segments will be delivered throughout the development/production cycle of September 1979 to January 1980. The last four segments will be delivered NLT than January 25, 1980.

3.0 F-16 TX COURSE DELIVERY SCHEDULE

The F-16 TX course is already in existence at the date this report is written. The contractor will neither redesign nor redevelop this course. At the conclusion of B/C course development and authoring in June 1980, the contractor will recommend

FIGURE 1
SUMMARY OF PROPOSED DELIVERY SCHEDULE

F-16 B/C COURSE

A. CONVERSION _____ Δ
 B. NAVIGATION _____ Δ
 C. INTERCEPT _____ Δ
 D. BFM _____ Δ
 E. ACM _____ Δ
 F. SA _____ Δ
 G. SAT _____ Δ

F-16 TX COURSE

A. SUBSTITUTION WITH B/C MATERIALS _____ Δ

F-16 IP COURSE

A. SYLLABUS _____ Δ
 B. PRODUCTION OF COURSEWARES _____ Δ

F-16 CONTINUATION TRAINING

A. SYLLABUS _____ Δ



substitution of TX course lectures with B/C course instructional materials that have been developed. This will be accomplished by July 31, 1980. The trainer and flight portions of the TX course syllabus will be evaluated by the contractor and some modifications may be recommended. This will also be accomplished by July 31, 1980. No new materials or syllabi will be produced by the contractor for the TX course.

4.0 F-16 IP COURSE DELIVERY SCHEDULE

Design and development of the IP course will begin in July 1980. The course will be complete and ready for implementation in March 1981. Because the design of the IP course is not complete at the date this report is being prepared, the syllabus and resulting number of segments to be produced are not yet available. The syllabus is currently scheduled for completion by October 15, 1980. Current estimates of IP course segments and media are listed in Table 2. These estimates are based on the size of the B/C course and estimated IP course requirements. The actual media selection for the IP course will reflect a more accurate media mix.

The production schedule for IP course materials will extend from August 1980 to February 1981. This time frame includes both authoring and production. As the design for the IP course is completed, this report (B056) will be updated to include the IP course syllabus, and detailed production schedule.

5.0 F-16 CONTINUATION TRAINING DELIVERY SCHEDULE

Design of the F-16 continuation training plan will follow development of the IP course. It will begin in March 1981 and be complete by September 1981. This design effort will result in a contractor recommended continuation training syllabus. No additional course materials will be developed or produced by the contractor.

This schedule reflects an adjustment in the original contract schedule, which called for this work to be complete by September 30, 1980. The schedule has been adjusted to allow the Air Force time to further define continuation training requirements and to allow the contractor time to complete all B/C course and IP course requirements.

TABLE 2

F-16 IP COURSE SEGMENT AND MEDIA ESTIMATES

<u>Media Type</u>	<u>Number of Segments</u>
Workbooks	20
Tape slides	10
Workbook with slides	5
Seminars	<u>30</u>
<u>TOTAL</u>	<u>65</u>

6.0 CONCLUSION

CDRL B056 calls for all syllabi in final Air Force format. It also calls for a delivery schedule for all additional coursewares in the F-16 pilot training system. A summary of the recommended schedule is shown in Figure 1.

The B/C course syllabus is attached to this report. A detailed schedule for B/C course production is provided in the body of this document.

The TX course syllabus is already in existence. The contractor will review this syllabus and make recommendations concerning its effectiveness. Some TX course lectures may be deleted and covered by B/C course materials. These recommendations will be made by the contractor by July 30, 1980.

The F-16 IP course will be developed following the B/C course. The IP course syllabus will be available October 15, 1980 and all coursewares will be developed and produced by February 28, 1981. When the syllabus is completed, this report will be updated to include that syllabus, an IP course segment list, and a detailed production schedule.

The F-16 continuation training course will be developed following the IP course. This effort will result in a contractor recommended syllabus for continuation training. This syllabus will be available by September 30, 1981. This CDRL (B056) will be updated at that time to include work completed by the contractor on a recommended continuation training syllabus.

Attachment I
B COURSE SYLLABUS

DEPARTMENT OF THE AIR FORCE
Headquarters Tactical Air Command
Langley Air Force Base, Virginia 23665

TAC SYLLABUS
Course F16008

USAF OPERATIONAL TRAINING COURSE

F-16

MARCH 1981

INTRODUCTION

This syllabus prescribes the overall training strategy and approximate amount of instruction required for a student having the entry prerequisites to attain the course goals and graduate. Units tasked to implement this syllabus are responsible for insuring that each student graduated possesses the attitudes, knowledge, skills, and levels of proficiency set forth in the course training standards. Within syllabus and other directive constraints, the amount and level of training devoted to mission elements, events, subjects, or phases should be adjusted, as required, to meet the needs of individual students.

Instructions governing publication and revision of TAC syllabi are contained in TACR 8-1.



W.L. CREECH, General, USAF
Commander

FREDERICK A. CROW, Colonel, USAF
Director of Administration

OPR: TAC/DOOTG
OPDR: OLAG 4444 OPS Sq (F-16 OTD), Hill AFB, UT
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DATE

CHANGE NO.

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DISTRUBUTION: X

<u>PDU</u>	<u>LOCATION</u>	<u>CYS:</u>	<u>TOTAL CYS:</u>
4140	12AF/DOOT, Bergstrom AFB, TX	2	2
4172	27TFW/DO5/F-111D, Cannon AFB, NM	1	1
4183	OLAC, 4444 OPS SQ (OTD) A-10/GLCM	2	2
4231	35TFW/DO5/F-4G, George AFB, CA	1	2
	37TFW/DOTD	1	
388	388TFW/DO, HILL AFB, UT	100	130
	OLAG, 4444 OPS SQ (OTD) F-16	30	
4082	479TTW/DOTD/AT-38, Holloman AFB, NM	1	1
4011	HQ TAC/DOOTG, Langley AFB, VA	15	26
	TAC/DOOT ^P	1	
	TAC/DOOS	1	
	TAC/DOVF	1	
	TAC/INAS	1	
	TAC/ACMC	1	
	TAC/XPMQ	1	
	TAC/IGIO	1	
	TAC/DPRO	1	
	TAC/SE	1	
	TAC/HO	1	
	4444 OPS SQ/CC	1	
4127	58TTW/DOTD/F-4, Luke AFB, AZ	1	4
	405TTW/DO5/F-15	1	
	OLAK, 4444 OPS SQ (OTD)/TACS/TNG AIDS	2	
4175	56TFW/DO, Macdill AFB, FL	100	100
4249	366TFW/DO/F-111A, Mt Home AFB, ID	1	2
	OLAF, 4444 OPS SQ (OTD)/EF-111A	1	
4268	USAF/TFWC/TA, NELLIS AFB, NV	1	6
	57FWW/DO	1	
	474TFW/DO	2	
	OLAD, 4444 OPS SQ (OTD)/EWTT	2	
4063	9AF/DOOT, Shaw AFB, SC	2	4
	363TRW/DO	2	
	HQ PACAF/DAPD, HICKAM AFB, HI. 96853		10
	PACAF/DOOT	2	
	5AF/DOOT, APO SF 96328	2	
	13AF/DOOT, APO SF 96274	1	
	313AD/DOOT, APO SF 96239	1	
	314AD/DOOT, APO SF 96264	2	
	8TFW/DO, APO SF 96264	2	
	HQ USAFE/DAPD, APO NY 09012		5
	3AF/DOOT, APO NY 09127	1	
	16AF/DOOT, APO NY 09283	1	
	17AF/DOOT, APO NY 09130	1	
	50TFW/DO, APO NY 09109	2	

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<u>PDO</u>	<u>LOCATION</u>	<u>CYS:</u>	<u>TOTAL CYS:</u>
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	USAF/XOOTT	1	
	USAF/XOOTD	1	
	USAF/XOXFT	1	
	USAF/LEYY	1	
	USAF/ACMS	1	
	USAF/ACMI	1	
	NGB/XOO	1	
	3245 TEST WING/TEOFD, Eglin AFB, FL 32544		1
	AFTEC/TEBS, Kirtland AFB, NM 87117		1
	AUL/LSE, Maxwell AFB, AL 36112	1	2
	AU/LD	1	
	AFHRL/OTR, Williams AFB, AZ 85224		2

LIST OF ABBREVIATIONS

AAM - Air-to-Air Missile
AAR - Air-to-Air Refueling
AC - Aircraft
ACM - Air Combat Maneuvers
ACT - Air Combat Tactics
AHC - Advanced Handling Characteristics
ARA - Airborne Radar Approach
AS - Audio Slide
ASPT - Advanced Simulator for Pilot Training
ASRT - Air Support Radar Team
ATD - Aircrew Training Device
AWACS - Airborne Warning and Control System
BAM - Basic Attack Maneuvers
BATH - Best Available True Heading
BCN - Beacon
BFM - Basic Fighter Maneuvers
BGO - Bingo
BVR - Beyond Visual Range
CADC - Central Air Data Computer
CAS - Close Air Support
CCIP - Continuously Computed Impact Point
CCRP - Continuously Computed Release Point
CFT - Cockpit Familiarization Trainer
CV - Conversion
D/ACM - Dissimilar/Air Combat Maneuvers

LIST OF ABBREVIATIONS (Continued)

D/ACF - Dissimilar/Air Combat Tactics
DB - Dive Bomb
DGFT - Dogfight Override
DTOS - Dive Toss
EMR - Estimated Manual Release
EPT - Egress Procedures Trainer
FAC - Forward Air Controller
FCNP - Fire Control Navigation Panel
FORM - Formation
GM - Ground Map Mode
HADB - High Altitude Dive Bomb
HAS - High Angle Strafe
HOM - Home Mode
HUD - Head Up Display
INST - Instrument
INTCP - Intercept
JFS - Jet Fuel Starter
LAB - Low Angle Bomb
LADD - Low Altitude Drogue Delivery
LALD - Low Angle Low Drag Bomb
LAS - Low Angle Strafe
LATF - Low Altitude Tactical Formation
LATN - Low Altitude Tactical Navigation
LCOS - Lead Computing Optical Sight
LE - Lecture

LIST OF ABBREVIATIONS (Continued)

MAN - Manual

MFL - Maintenance Fault List

MSLS - Missile Override

NAV - Navigation

OAP - Offset Aim Point

OPF - Operational Flight Program

OFT - Operational Flight Trainer

PLP - Precautionary Landing Pattern

PTT - Part Task Training

REO - Radar Electro/Optical Display

RLADD - Radar Low Altitude Drogue Delivery

SA - Surface Attack

SAN - Surface Attack Night

SAR - Search and Rescue

SAT - Surface Attack Tactics

SCAR - Strike Control and Reconnaissance

SFO - Simulated Flameout Pattern

SMS - Stores Management System

SS - Snapshoot Gunsight

ST - Specialized Training

STRF - Strafe

SUU - Suspension Unit Universal

TER - Triple Ejector Rack

TOT - Time on Target

TD - Target Designation

LIST OF ABBREVIATIONS (Continued)

TIC - Troops In Contact
TISL - Target Identification Set, Laser
TR - Transition
VIP - Visual Initial Point
VLADD - Visual Low Altitude Drogue Delivery
VTR - Video Tape
WB - Workbook
WS - Workbook Slide

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SECTION I: COURSE ACCOUNTING

A. GENERAL DESCRIPTION

1. COURSE TITLE: USAF Operational Training Course
2. COURSE NUMBER: F1600B
3. PURPOSE: To provide pilots with basic proficiency in transition, instruments, formation, basic fighter maneuvers, DART, and surface attack (conventional and nuclear) tasks; to provide pilots with limited proficiency in intercepts, surface attack tactics, and surface attack night tasks; and to familiarize pilots with dissimilar/air combat maneuvers.
4. LOCATION: 388 TFW, Hill AFB, UT
56 TFW, MacDill AFB, FL
5. DURATION: 110 training days
 - a. 19 Ground Training Days (includes 5 training days at ASPT)
 - b. 91 Flying Training Days
6. COURSE ENTRY PREREQUISITES:
 - a. Graduate of T38BOAXOAA within 45 days of class start date, or
 - b. meet one of the following experience criteria:
 - (1) receive an F-16 assignment from UPT;
 - (2) 700 hours First Pilot or Instructor Pilot time as T-37 or T-38 Instructor Pilot, or O-2/OV-10 Forward Air Controller.

B. STATUS UPON COMPLETION

Upon satisfactory completion of this course, the graduate will be awarded AFSC 1115Q. Specifically, graduates will be able to fly single-ship or as a wingman on a day VFR low altitude (500 ft) ingress/egress to and from a preplanned target delivering nuclear or conventional ordnance utilizing radar or visual delivery parameters. He will be able to intercept, engage, and defend against a single target aircraft. NOTE: Until the incorporation of the OFT into the training system, the graduate will have a limited capability to successfully intercept a non-benign single bogey. The pilot should be DART qualified (Basic pattern) and will have limited proficiency in surface attack night conventional weapons delivery. The graduate will be considered to have fulfilled all requirements contained in TACM 51-50 for Initial Qualification Training (IQT). Remaining Mission Qualification Training (MQT) requirements (if any) will be completed by the gaining unit IAW MAJCOM/Local directive and the pilot certified Mission Ready (MR) by the gaining Unit Commander.

C. COURSE INVENTORY

1. ACADEMICS

NUMBER

HOURS

Conversion Phase

Specialized Training	9	27.5
Workbooks	24	30.1
Workbook/Slides	5	3.0
Audio/Slides	12	6.7
Video Tapes	3	1.3
Lectures	9	26.8
Tests	5	10.5

Air-to-Air Phase

Specialized Training	3	4.5
Workbooks	7	10.4
Workbook/Slides	0	0.0
Audio/Slides	1	0.8
Video Tapes	0	0.0
Lectures	18	32.1
Tests	2	4.0

Air-to-Surface Phase

Specialized Training	5	9.0
Workbooks	11	10.4
Workbook/Slides	0	0.0
Audio/Slides	1	.6
Video Tapes	0	0.0
Lectures	25	41.5
Tests	3	8.0

TOTALS

Specialized Training	17	41.0
Workbooks	42	50.9
Workbook/Slides	5	3.0
Audio/Slides	14	8.1
Video Tapes	3	1.3
Lectures	52	100.4
Tests	10	22.5

2. AIRCREW TRAINING DEVICES

EPT	5	8.0
CFT	5	7.5
STATIC A/C	2	1.5
PTT	2	2.0
ASPT	4	4.0
ACTUAL EQUIPMENT	1	3.0
TOTAL	19	26.0

3. FLYING TRAINING

<u>STUDENT MISSION NUMBER</u>	<u>MSN FLT TIME</u>	<u>DIRECT SUPPORT F-16 SORTIES</u>	<u>OTHER SUPPORT SORTIES</u>	<u>ACFT PER STUDENT F-16A/F-16B</u>
TR-1	1.3			1.0
TR-2	1.3			1.0
TR-3	1.3			1.0
*TR-4	1.5	1.0		2.0
TR-5	1.5	1.0		2.0
TR-6	1.5			1.0
INST-1	1.5			1.0
INST-2	1.5			1.0
AHC-1	1.3			1.0
AHC-2	1.5	1.0		2.0
FORM-1	1.5	.33		1.0 .33
*FORM-2	1.5	.33		1.0 .33
INTCP-1	1.5			1.0
INTCP-2	1.5			1.0
INTCP-3	1.3			1.0
BFM-1	1.0			1.0
BFM-2	1.0	1.0		2.0
BFM-3	1.0	1.0		2.0
*BFM-4	1.0	1.0		2.0
BFM-5	1.0	1.0		2.0
BFM-6	1.5	1.0		1.0 1.0
BFM-7	1.5	1.0		1.0 1.0
BFM-8	1.5	1.0		2.0
BFM-9	1.0	1.0		2.0
BFM-10	1.0	1.0		2.0
BFM-11	1.0			1.0
BFM-12	1.0	1.0		2.0
BFM-13	1.0	1.0		2.0
BFM-14	1.0	1.0		2.0
D/ACM-1	1.0	1.0	1.0	2.0
D/ACM-2	1.0	1.0	1.0	2.0
DART-1	1.2		0.5	1.0
DART-2	1.2	0.5	0.5	1.5

3. FLYING TRAINING (Continued)

<u>STUDENT MISSION NUMBER</u>	<u>MSN FLT TIME</u>	<u>DIRECT SUPPORT F-16 SORTIES</u>	<u>OTHER SUPPORT SORTIES</u>	<u>ACFT PER STUDENT F-16A/F-16B</u>	
NAV-1	1.5				1.0
NAV-2	1.5				1.0
NAV-3	1.5	1.0		2.0	
NAV-4	1.5	1.0		2.0	
NAV-5	1.5	1.0		2.0	
BAM	1.5				1.0
SA-1	1.4	.33		.33	1.0
SA-2	1.4	.33		1.33	
SA-3	1.4	.33		1.33	
SA-4	1.4	.33		1.33	
*SA-5	1.4	.33		1.33	
SA-6	1.4	.33		.33	1.0
SA-7	1.4	.33		1.33	
SA-8	1.4	.33		.33	1.0
SA-9	1.4	.33		1.33	
SA-10	1.4	.33		1.33	
SA-11	1.4	.33		1.33	
SAN-1	2.4				1.0
SAN-2	2.4	1.0		2.0	
SAT-1	1.5	.33		.33	1.0
SAT-2	1.5	.33		.33	1.0
SAT-3	1.5	1.0		2.0	
SAT-4	1.5	1.0		2.0	
SAT-5	1.5	1.0		2.0	
SAT-6	1.5	1.0		2.0	
SAT-7	1.5	1.0		2.0	
SAT-8	<u>1.5</u>	<u>1.0</u>	<u> </u>	<u>2.0</u>	<u> </u>
TOTALS	82.6	32.45	3.0	67.79	24.66

60 Sorties

*Indicates sorties which may be deleted for T-38 First Assignment IP. See General Instruction number 10.

4. FLYING MODULE SUMMARY

	<u>SORTIES</u>	<u>HOURS</u>
Transition (TR)	6	8.4
Instrument (INST)	2	3.0
Advanced Handling Characteristics (AHC)	2	2.8
Formation (FORM)	2	3.0
Intercept (INTCP)	3	4.3
Basic Fighter Maneuvers (BFM)	14	15.5
Dissimilar/Air Combat Maneuvers (D/ACM)	2	2.0
DART	2	2.4
Navigation/Nuclear (NAV)	5	7.5
Basic Attack Maneuvers (BAM)	1	1.5
Surface Attack (SA)	11	15.4
Surface Attack Night (SAN)	2	4.8
Surface Attack Tactics (SAT)	<u>8</u>	<u>12.0</u>
TOTAL	60	82.6

5. WEAPONS/RANGE REQUIREMENTS

<u>SORTIE</u>	<u>20MM</u>	<u>BDU</u>	<u>MK</u>	<u>MK</u>	<u>MK</u>	<u>FLARES</u>	<u>RANGE UTILIZATION</u>		
<u>NR</u>	<u>AMMO</u>	<u>33</u>	<u>82</u>	<u>84</u>	<u>106</u>		<u>TYPE/PASSES/TIME</u>		
			(INERT)	(INERT)			A/A	N/A	1.0
INTCP-1							A/A	N/A	1.0
INTCP-2							A/A	N/A	1.0
INTCP-3									
							A/A	N/A	.5
BFM-1							A/A	N/A	.5
BFM-2							A/A	N/A	.5
BFM-3							A/A	N/A	.5
BFM-4							A/A	N/A	.5
BFM-5							A/A	N/A	.5
BFM-6							A/A	N/A	.5
BFM-7							A/A	N/A	.5
BFM-8							A/A	N/A	.5
BFM-9							A/A	N/A	.5
BFM-10							A/A	N/A	.5
BFM-11							A/A	N/A	.5
BFM-12							A/A	N/A	.5
BFM-13							A/A	N/A	.5
BFM-14									
							A/A	N/A	.5
D/ACM-1							A/A	N/A	.5
D/ACM-2									
							A/A	N/A	1.0
DART-1	250						A/A	N/A	1.0
DART-2	250								
					8		A/S	10	.5
NAV-1					8		A/S	10	.5
NAV-2					8		A/S	10	.5
NAV-3					8		A/S	10	.5
NAV-4					8		A/S	10	.5
NAV-5					8		A/S	10	.5
							A/S	A/R	.8
BAM									
							A/S	22	.8
SA-1	150	12					A/S	22	.8
SA-2	150	12					A/S	22	.8
SA-3	150	12					A/S	22	.8
SA-4	150	12					A/S	22	.8
SA-5	150	12					A/S	22	.8
SA-6	150	12					A/S	22	.8
SA-7	150	12					A/S	22	.8
SA-8	150	12					A/S	22	.8
SA-9	150	12					A/S	22	.8
SA-10	150	12					A/S	22	.8
SA-11	150	12					A/S	22	.8

5. WEAPONS/RANGE REQUIREMENTS (Continued)

<u>SORTIE</u> <u>NR</u>	<u>20MM</u> <u>AMMO</u>	<u>BDU</u> <u>33</u>	<u>MK</u> <u>82</u> <u>(INERT)</u>	<u>MK</u> <u>84</u> <u>(INERT)</u>	<u>MK</u> <u>106</u>	<u>FLARES</u>	<u>RANGE UTILIZATION</u> <u>TYPE/PASSES/TIME</u>
SAN-1		6				8	A/S 15 .6
SAN-2		8					A/S 15 .6
SAT-1	150	8					A/S 8 .5
SAT-2	150	8					A/S 8 .5
SAT-3	150	8					A/S 4 .5
SAT-4	150	8					A/S 4 .5
SAT-5	150	8	or 6	or 2			A/S 4/3/1 .5
SAT-6	150	8	or 6	or 2			A/S 4/3/1 .5
SAT-7	150	8	or 6	or 2			A/S 4/3/1 .5
SAT-8	150	8	or 6	or 2			A/S 4/3/1 .5
TOTAL	3350	194	12	4	40	8	

NOTE: A minimum of two(2) SAT sorties (SAT-5, SAT-6, SAT-7, or SAT-8) will be flown with heavyweight ordnance. MK-82's, MK-84's, or other aircraft certified (inert) ordnance may be employed to fulfill heavyweight requirement.

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6. AIRCRAFT CONFIGURATIONS

Assumptions:

- a. IPs flying "A" model aircraft or in the front seat of "B" model aircraft may fly any configuration approved in T.O. IF-16A-1.
- b. A "B" model aircraft may be substituted for an "A" model aircraft on any mission.
- c. A TER may be substituted for one SUU-20 on T.O. IF-16A-1 approved configurations.
- d. A single SUU-20 or one SUU-20 and MAU-12 (on opposite wings) may be flown in lieu of two SUU-20s with CAT-III limiter or when an IP is aboard the aircraft.
- e. Acceptable combined configurations are any combination of loads shown in the following matrix except configurations five and six (wing tanks and centerline tank).

Configuration legend:

- 1 - Clean
- 2 - One/two AIM-9s on stations 1 and 9
- 3 - Centerline pylon
- 4 - MAU-12s on stations 3 and 7
- 5 - Centerline tank
- 6 - Two wing tanks
- 7 - SUU-20s on stations 3 and 7
- A - Acceptable
- D - Desired
- R - Required

Configuration Matrix:

	Configurations - 1	2	3	4	5	6	7
<u>Phase/Sortie</u>							
TR/AHC (A)	D	A	A		A		
TR/AHC (B)	A	A	A		D		
TR-6	A	A	A	A	A	D	A
INST-1	A	A	A	A	D	A	A (Note 1)
INST-2	A	A	A	A	A	D	A (Note 1)
FORM (A)	D	D	A		A		
FORM (B)	A	D	A		D		
INTCP-1/2	A	D	A	A	D	A	A (Note 2)
INTCP-3	A	D	A		D		
BFM,D/ACM (A)	D	D	A		A		
BFM,D/ACM (B)	A	D	A		D		
DART (A)	D	D	A		A		
DART (B)	A	D	A		D		
NAV		D	A		A	D	R
BAM		D	A	A	A	D	D
SA		D	A		A	D	R
SAT		D	A		A	D	R (Note 3)
SAN		D	A		A	D	R

Notes:

Note 1: Category 1 or 2 only for unusual attitude recoveries (B model aircraft with IP).

Note 2: If vertical conversions are flown, INTCP-3 configurations apply.

Note 3: SUU-20s except when heavyweight inert ordnance is required.

SECTION II: COURSE MANAGEMENT

A. TRAINING STANDARDS AND GRADING CRITERIA

1. GENERAL

The goal of this course is to provide the graduate with the flying skills and prerequisite knowledge that will enable him to complete Mission Qualification Training (MQT) at his gaining unit IAW MAJCOM directives.

2. ACADEMIC TRAINING STANDARDS

Academic competence is measured and documented by either end-of-lesson quizzes administered in the Learning Center or larger tests covering a block of instruction and administered in a group session. Lessons for which a quiz must be taken in the Learning Center are indicated by the presence of a "Q" in the lower-right corner of the academic symbol on the Course Map. Lessons that do not have a "Q" are tested in a group session and, therefore, do not have an individual quiz in the Learning Center.

After a quiz is completed in the Learning Center it is submitted for scoring. If answers are incorrect, a Learning Center Instructor will provide remediation. When the instructor is satisfied with the student's performance, the student will be certified as having successfully completed the objectives of the lesson.

In some cases, several lessons are grouped together to form a block of instruction and the material is tested in a group session, for example, Test 101 on the engine system. Following group testing, correct answers will be reviewed.

Tests are administered at the end of each block of academics. Section III, paragraph H lists the lessons comprising each test and the time allotted for each. The minimum passing score for written tests is 85%. Students failing to achieve 85% on written tests or satisfactory on oral or problem solving exercises will be given remediation. A passing grade by reexamination is required prior to module completion. All academic tests will be corrected to 100%. For oral or problem solving exercises the instructor must document satisfactory or unsatisfactory performance.

3. FLYING GRADING CRITERIA

Flying grades will be recorded on AF Form 1363 (grade-slip). Students must meet a two (2) proficiency level as recorded on the AF Form 1363 prior to entry into the next module of training. The following numerical system is to be used for grading flying tasks:

<u>Proficiency Level</u>	<u>Description of Performance</u>
Unknown	Performance not observed or the element was not performed.
Dangerous	Performance was unsafe. One element on an AF Form 1363 marked "Dangerous" will result in an overall grade of zero (failure).
0	Performance indicates a lack of ability or knowledge.
1	Performance is safe, but indicates limited proficiency. Makes errors of omission or commission.
2	Performance is essentially correct. Recognizes and corrects errors.
3	Performance is correct, efficient, skillful, and without hesitation.
4	Performance reflects an unusually high degree of ability.

The conditions, standards, and criteria by which tasks or events are measured are contained in a Sorties Objective Directory. The Directory includes criteria used in TACR 60-2 and other official directives. It should be used in conjunction with the syllabus. A copy of the Directory will be maintained in each training squadron.

B. GENERAL INSTRUCTIONS

1. WAIVER AUTHORITY

Unless otherwise indicated, HQ TAC/DO is the waiver authority for sorties/events in the syllabus.

2. COMMANDER'S AUTHORITY

The Squadron Commander may authorize deviations in the conduct of training and in the aircraft type to meet special weather and peculiar local conditions consistent with flying safety practices, student progress, and student experience level.

3. TRAINING PROGRESSION

Because this syllabus is designed for a student with no tactical fighter experience and average pilot ability, some students will require more or less training to meet required proficiency levels.

a. Accelerate

To accomodate the needs of the quick learner whose performance consistently demonstrates early achievement of standards on particular tasks in a sortie, this syllabus incorporates a system for acceleration. All flying sorties prescribed within the modules in this syllabus will be flown. However, if student performance indicates additional practice of a task or tasks is not necessary to reach desired proficiency, the instructor may recommend acceleration of the task(s) in the remarks section of the gradeslip. On future missions calling for additional practice of this particular task the instructor pilot, with the Squadron Commander or Operations Officer approval, may substitute advanced module tasks. The instructor pilot will insure that the flight briefing adequately covers the advanced task(s) to be flown and that all other required tasks for that mission can still be accomplished. The instructor pilot will note those advanced tasks when completing the gradeslip.

b. X Missions

If a student does not achieve the required proficiency level he will fly an X ride for additional training. The instructor will use additional training options (CFT, briefings, academic instruction) to assist in correcting performance deficiencies prior to an X ride. The student may receive a maximum of three X sorties during the Conversion Phase (TR, AHC,

and FORM modules), a maximum of four X sorties during the Air-to-Air Phase (INTCP, DART, BFM, and D/ACM modules), and an additional four X sorties during the Air-to-Surface Phase (NAV, SA, SAN and SAT modules). If a student fails to demonstrate desired level of proficiency within the allotted X rides for a phase of training, he will be scheduled for an evaluation ride IAW TACR 50-31.

c. Excessive Delays

If a student experiences excessive delays (5 flying training days) between flights in any module the last sortie flown will be reaccomplished (this is not an X sortie).

4. Missions designated as requiring an F-16A may be flown in an F-16B provided all mission objectives are achieved. Maximum effort should be expended to accomplish scheduled sorties in the F-16A due to the increased mission time available. If student proficiency indicates a requirement for an IP in the aircraft on a designated solo mission an X mission will be flown.
5. Solo students will fly in VMC until successful completion of TR-5 (initial qualification), at which time Category D minimums apply (IAW TAC SUP 1 to AFR 60-16).
6. Missions designated as requiring more than two aircraft may be flown with as few as two aircraft (except FORM 1 and 2) as long as all specific mission tasks can be accomplished. FORM 1 and 2 must be flown with a minimum of three aircraft to be an effective sortie.
7. Each student will accomplish his initial formation take-off, formation landing (wing) and day and night AAR in an F-16B with an IP aboard the aircraft.
8. A maximum of three formation landings will be accomplished during this course. The second and third formation landings may be accomplished solo if proficiency is achieved on the first one.
9. Students may practice simulated flameout patterns in an F-16A without IP chase after successful completion of TR-5 (initial qualification).
10. Although AAR is scheduled on BFM 6, 7 and 8, it may be flown anytime after the Conversion Phase. Also, AAR may be flown as often as resources allow. A minimum of two day and two night AAR's are required with one solo day and night.

11. Sorties indicated by an asterisk (*) may be deleted for T-38 First Assignment IP (FAIP) students if progression rate is appropriate. If the asterisk sorties are flown by T-38 FAIP students, the mission will not be counted as an X mission. Training squadrons will annotate in student gradebooks which asterisk sorties were flown. The asterisk sorties are: TR-4, FORM-2, BFM-4, and SA-5.
12. Once an event or task has been accomplished, it may be performed on subsequent missions.
13. To provide additional training and experience, students may fly in the rear cockpit (F-16B) as an ungraded observer on direct support missions flown by an IP.

C. COURSE MAP

1. GENERAL

The following Course Map shows the prerequisites for each flying sortie in the syllabus. The relationships between blocks of instruction are indicated by an arrow. Before a block of instruction can be accomplished by a student, he must have successfully completed all prerequisites leading into that block of instruction.

2. SPECIAL INSTRUCTIONS

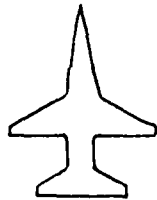
- a. The Course Map is read from bottom to top.
- b. Prerequisites for each block of instruction are represented by solid arrows leading into that block. Dashed blocks and/or lines indicate a prerequisite which should have been completed in another location on the Course Map.
- c. The purpose of the Course Map is to provide training managers with the flexibility needed to accomplish the training required. The Management Flow Chart reflects one way to progress through the Course Map.
- d. The course is divided into three phases: (1) Conversion; (2) Air-to-Air; and (3) Air-to-Surface. These phases have been further divided into modules (TR, INTCP, BFM, D/ACM, etc.)
- e. All ground training sessions have been assigned three digit identifiers which correspond to their appropriate module or phase of training.

- Conversion	101-199
- Intercept	201-299
- BFM	301-349
- DART	351-399
- D/ACM	401-499
- Navigation/Nuclear	501-599
- Surface Attack (Day/Night)	601-699
- Surface Attack Tactics	701-799
- Additional Training (i.e. AAR, Formation Landing, etc.)	901-999
- f. Since the training program incorporates some self-paced instruction the student bears an important responsibility for completing individual programs on time. The Course Map is a guide that shows which lessons or training events are prerequisite to other lessons, tests, flights, etc.

Students may accomplish individual programs at their own pace but must complete prerequisites prior to indicated lessons or sorties. To use the Course Map, the student starts at the first lesson. After completion, he moves on to the next lesson as indicated by the arrows leading to succeeding programs. When a number of different paths are possible, the student may proceed vertically up one path until reaching a logical break (new subject) or a scheduled event such as a lecture, hands-on training or flight. Then he may go back to the first lesson in another path and proceed upward. If the student desires greater variety he may elect to study material in several parallel paths simultaneously.

The student moves up the Course Map in this manner while watching for scheduled training events. Periodic lectures will test his understanding and answer any questions that may remain. Training device sessions enhance understanding of subject matter and provide hands-on practice. Flights demonstrate student understanding and the ability to perform the tasks at the required standards.

- g. The following symbols are used in the Course Map and represent the blocks of instruction as indicated.



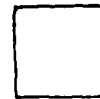
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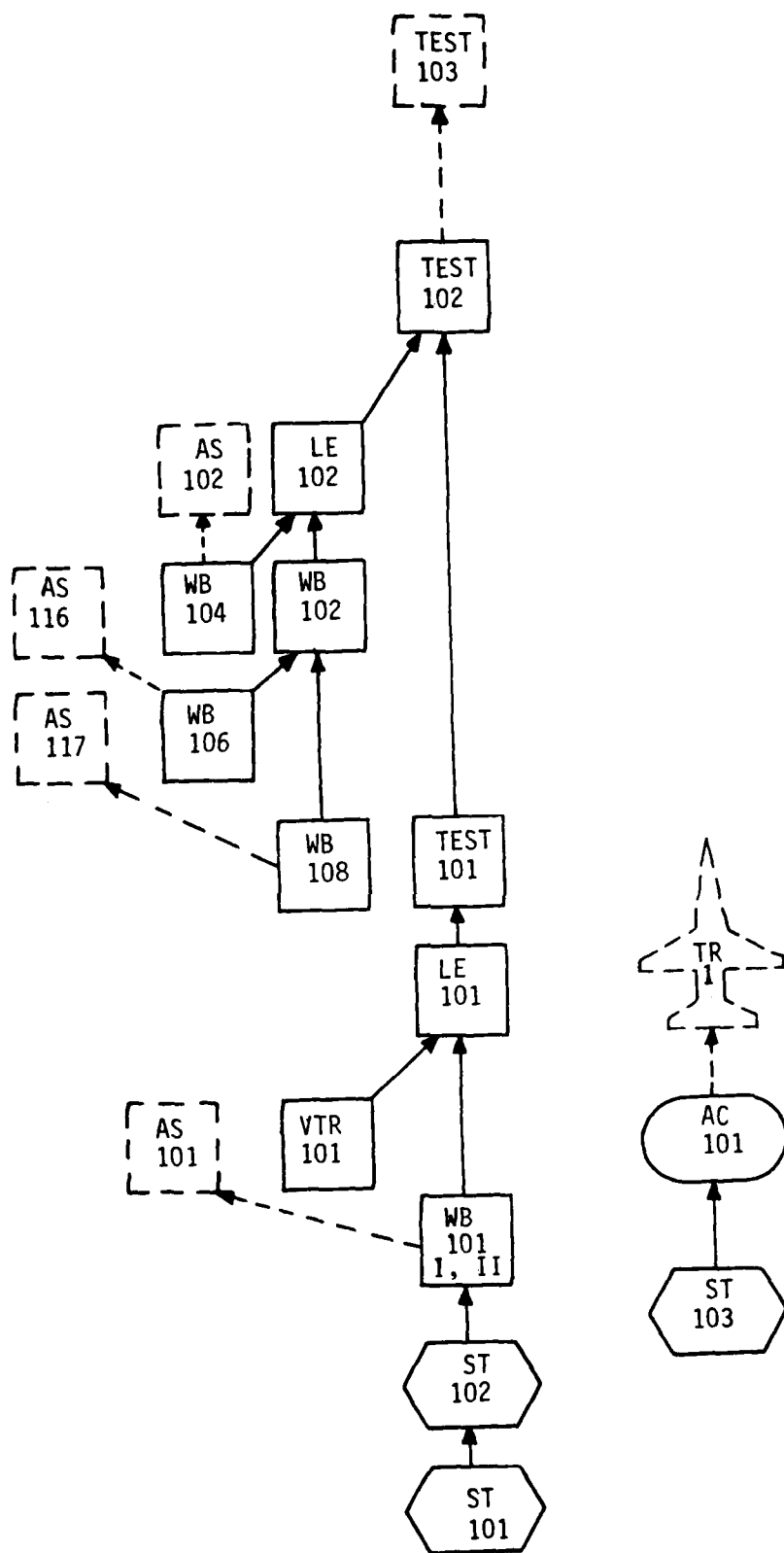
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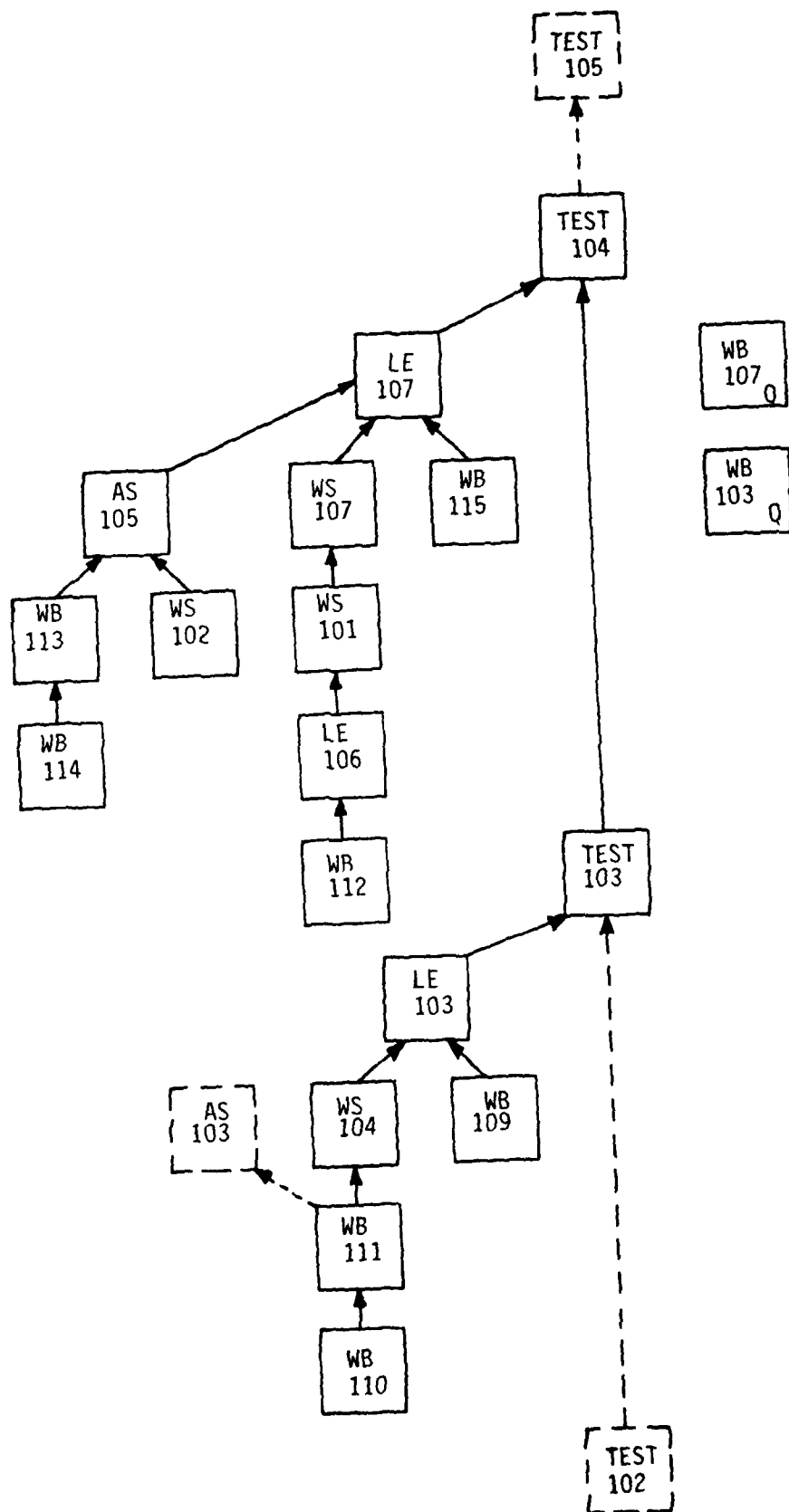


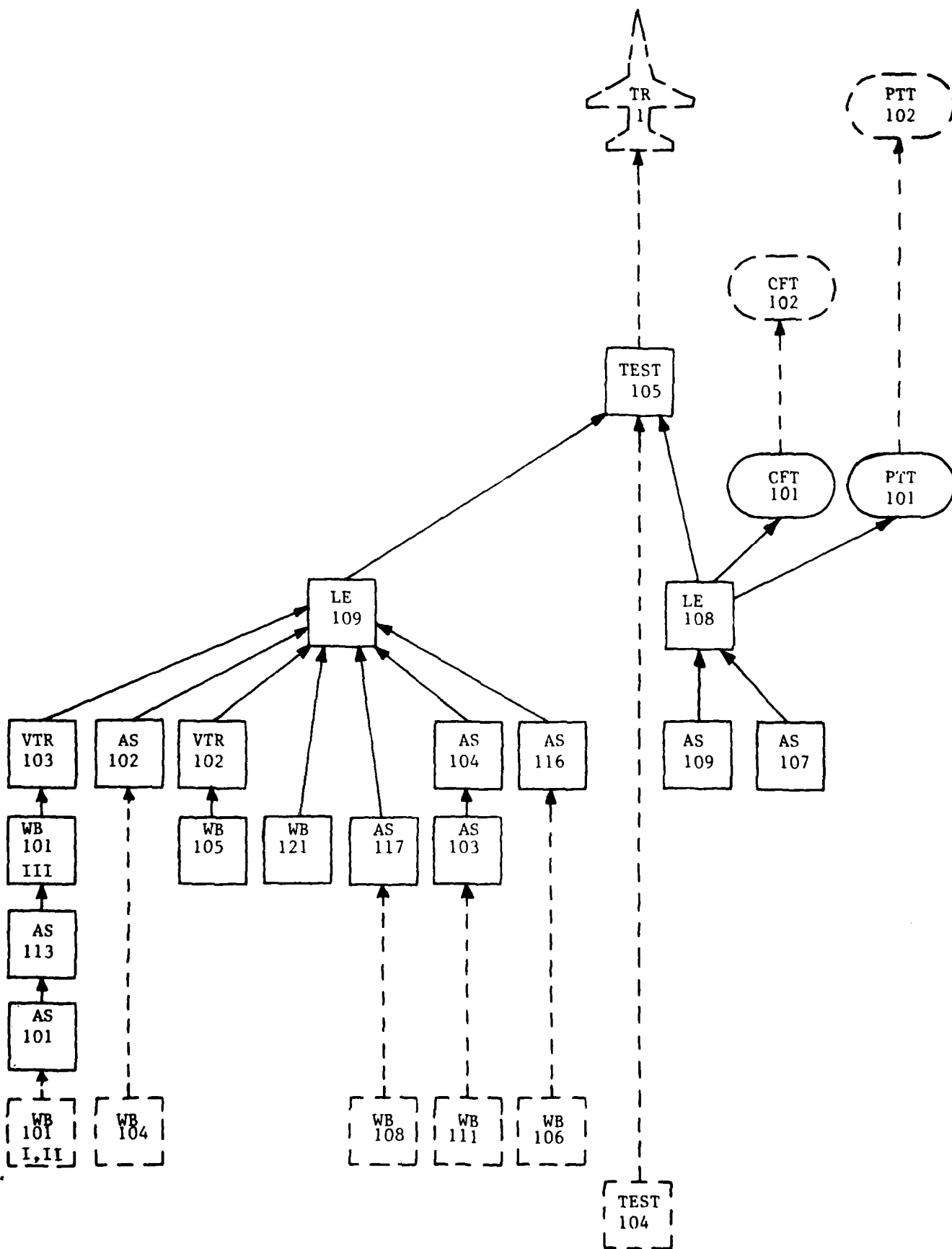
PTT, CFT, ASPT, AC

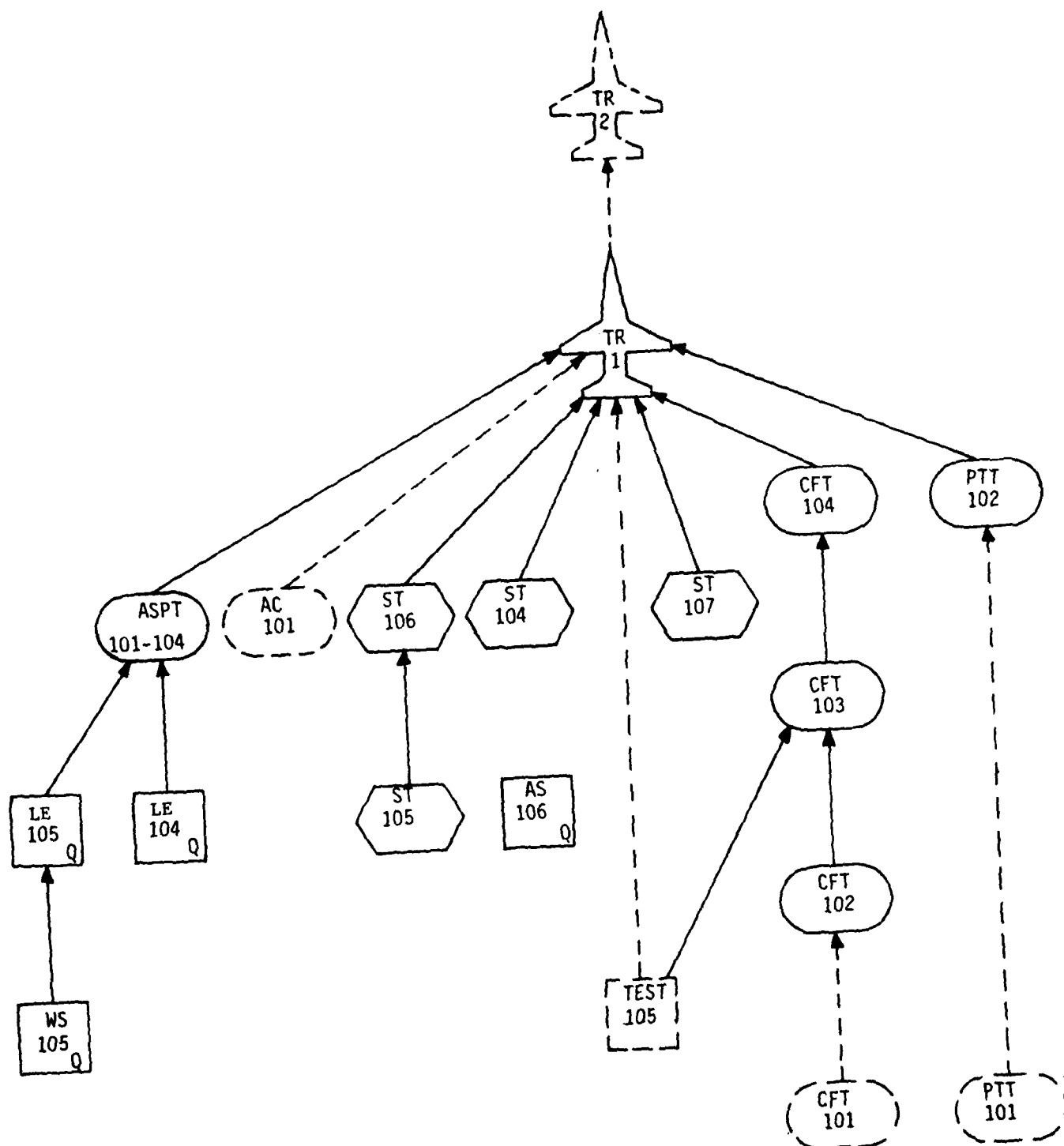


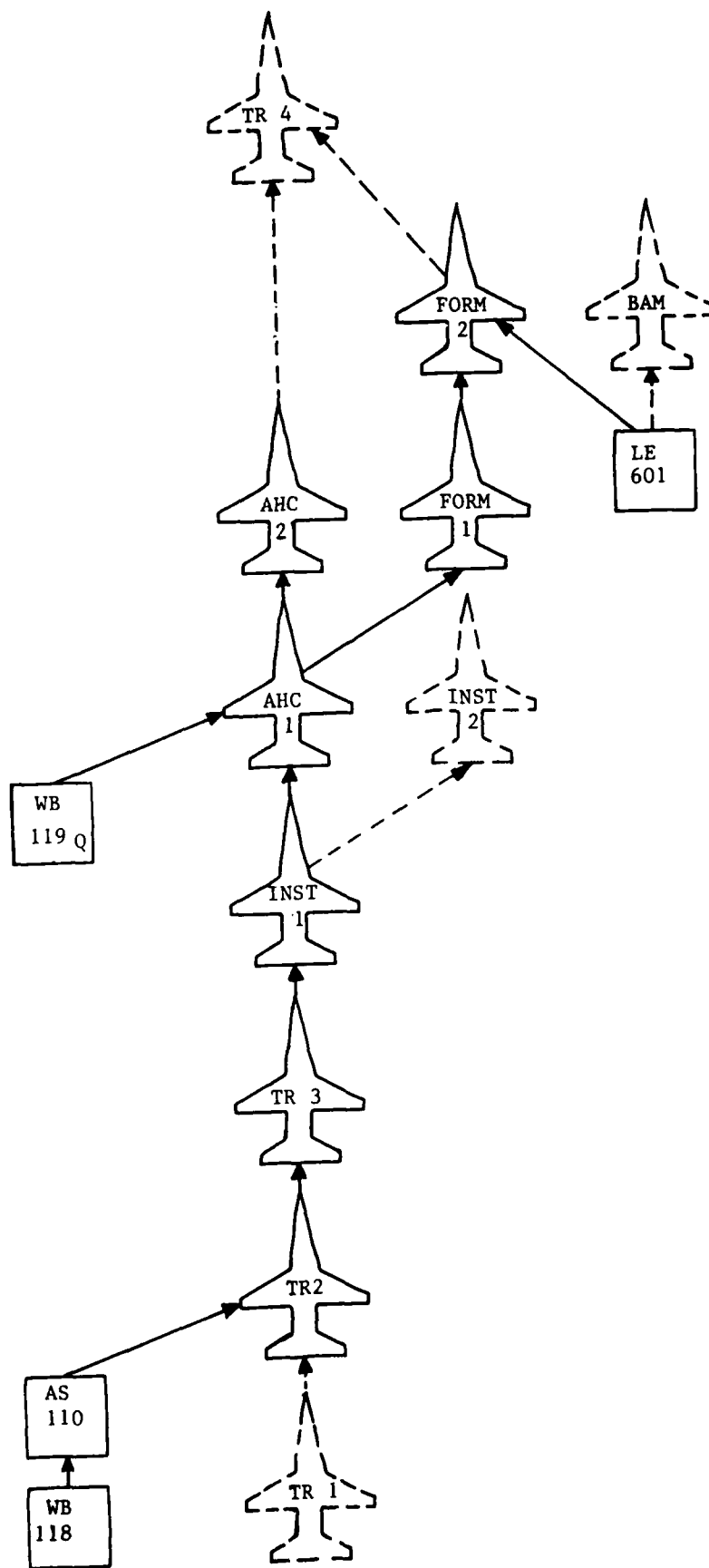
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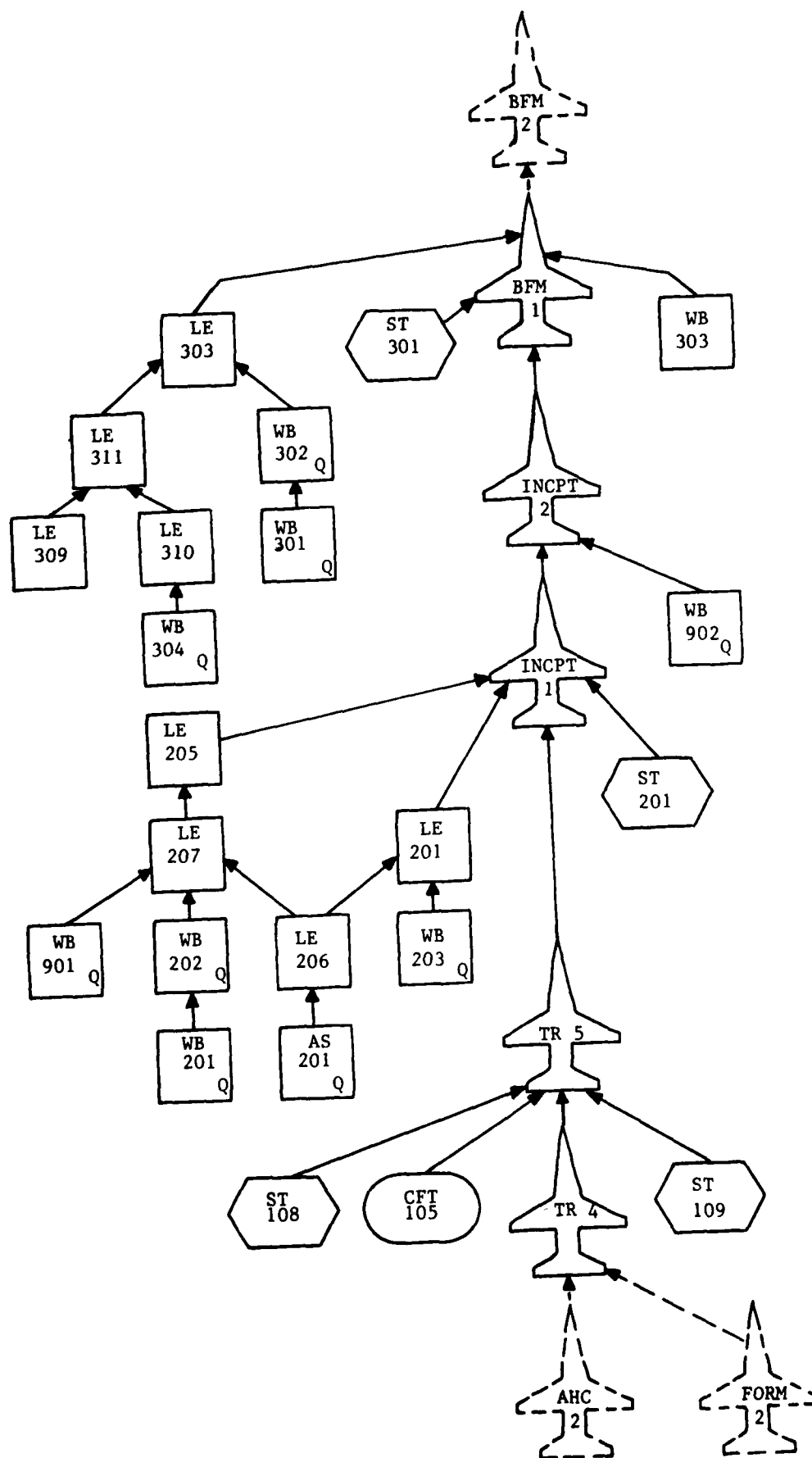


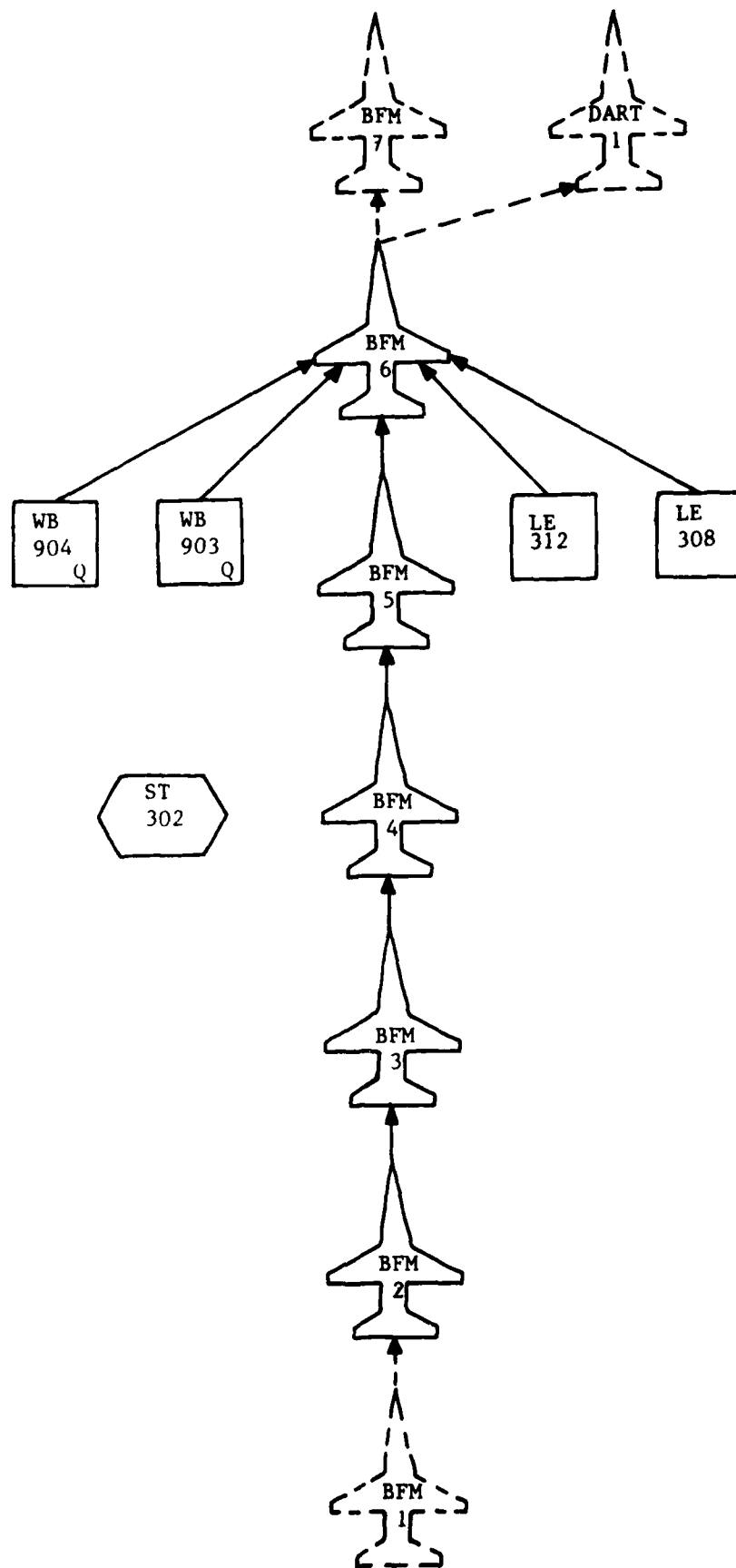


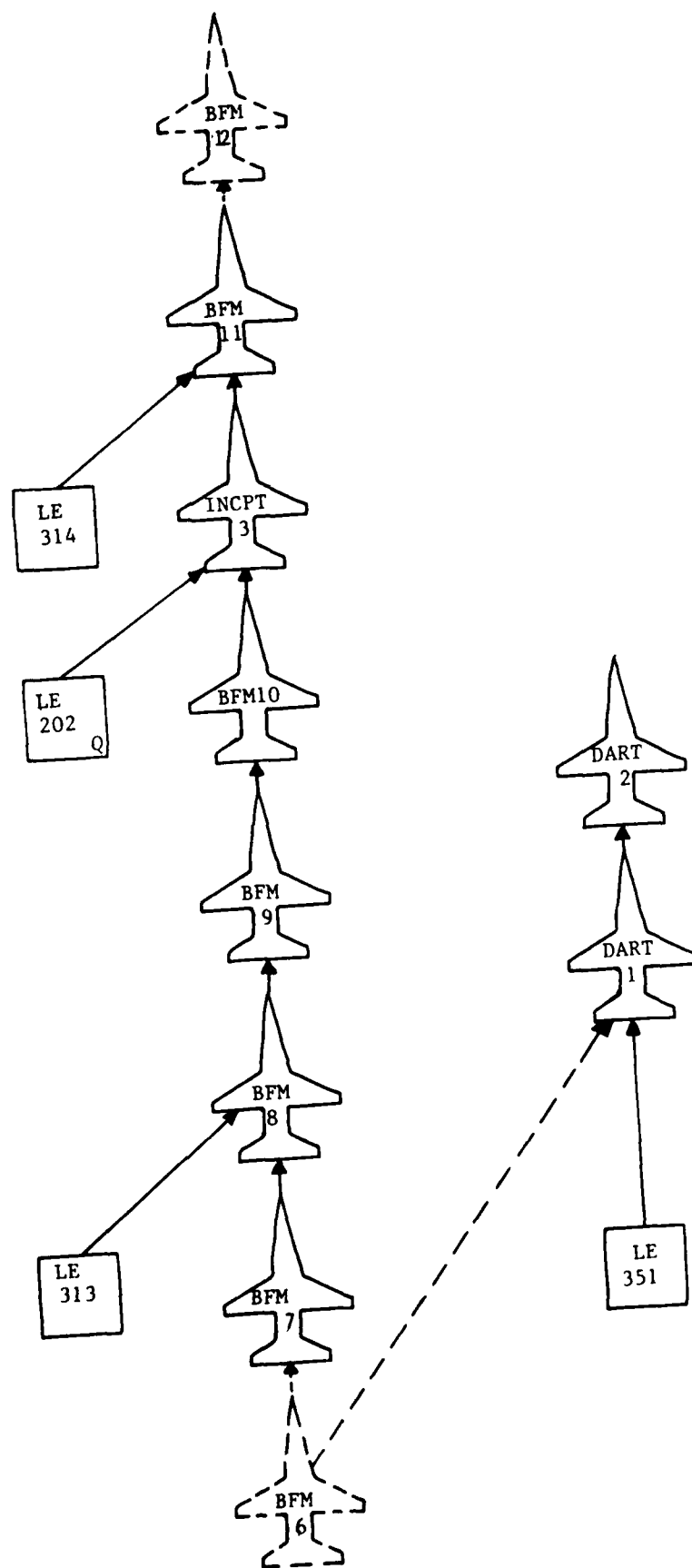


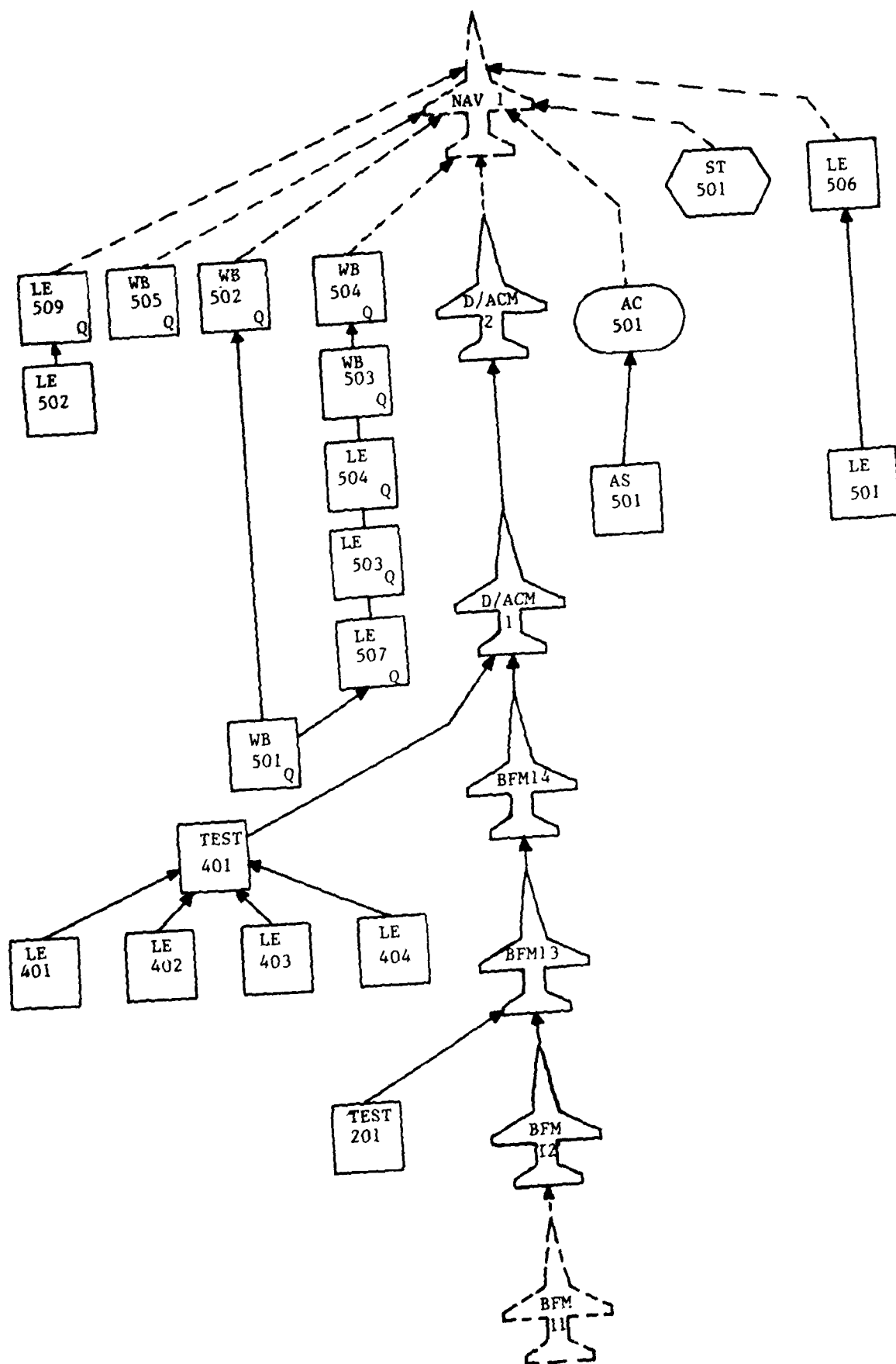


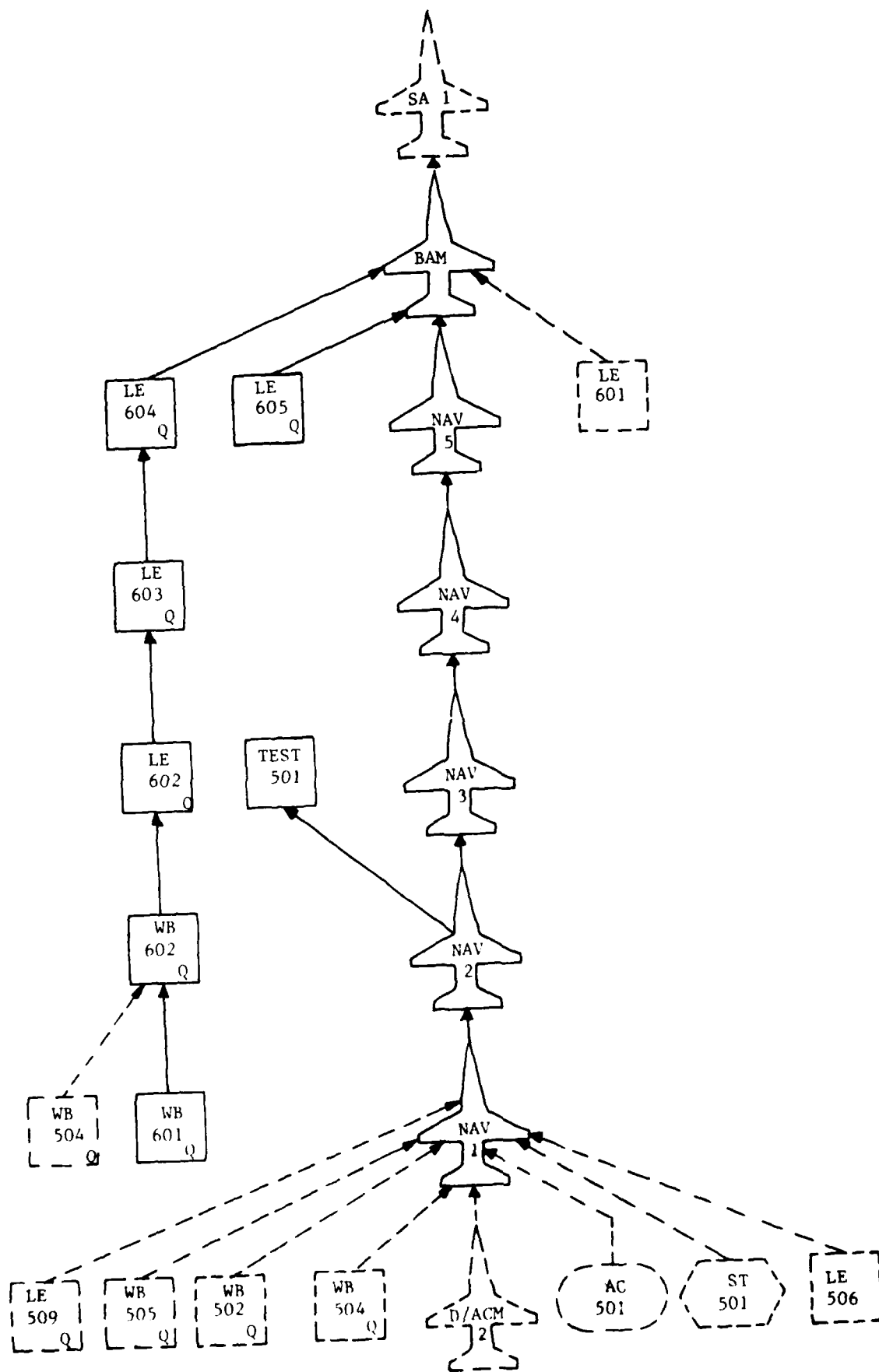


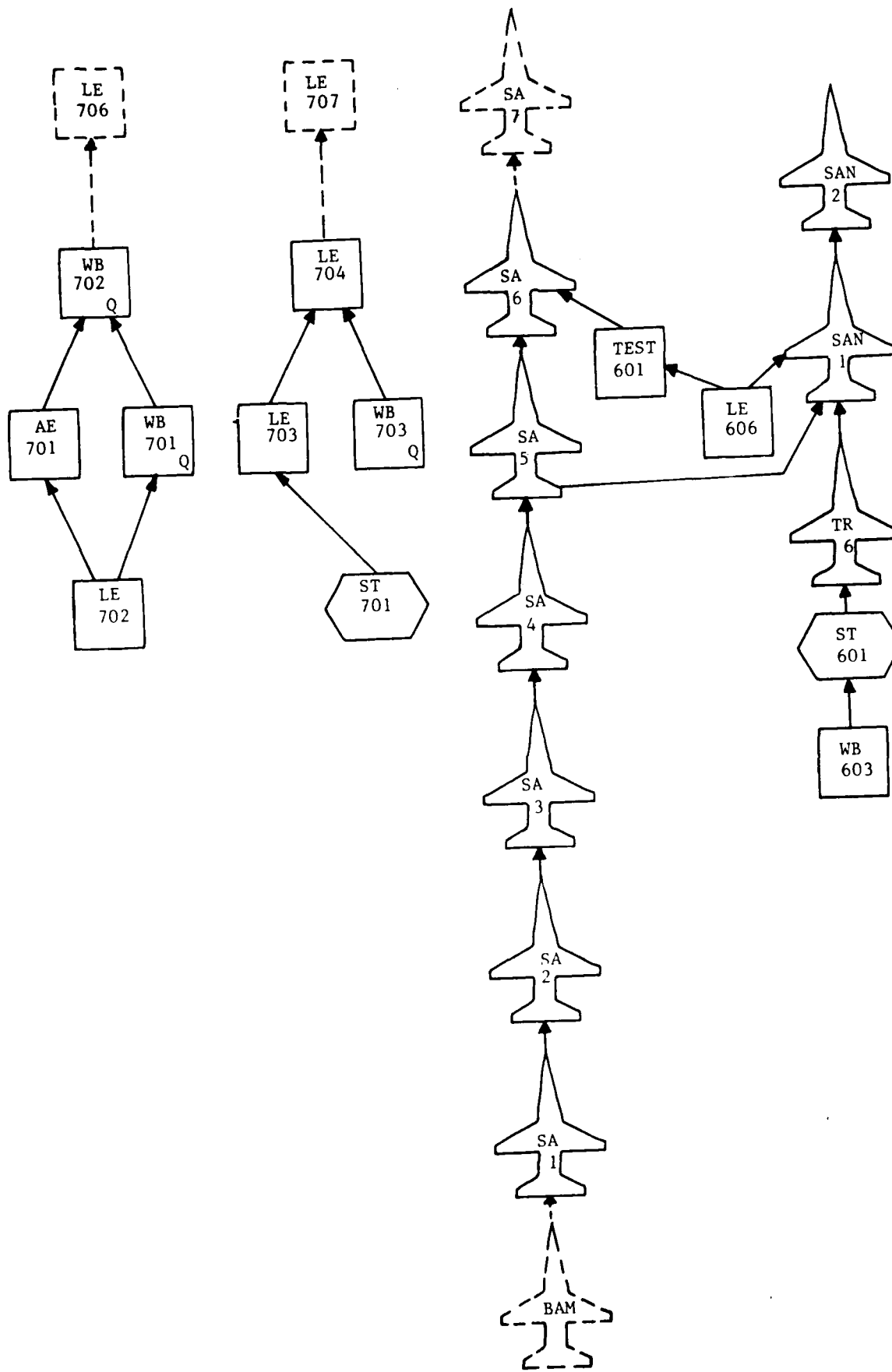


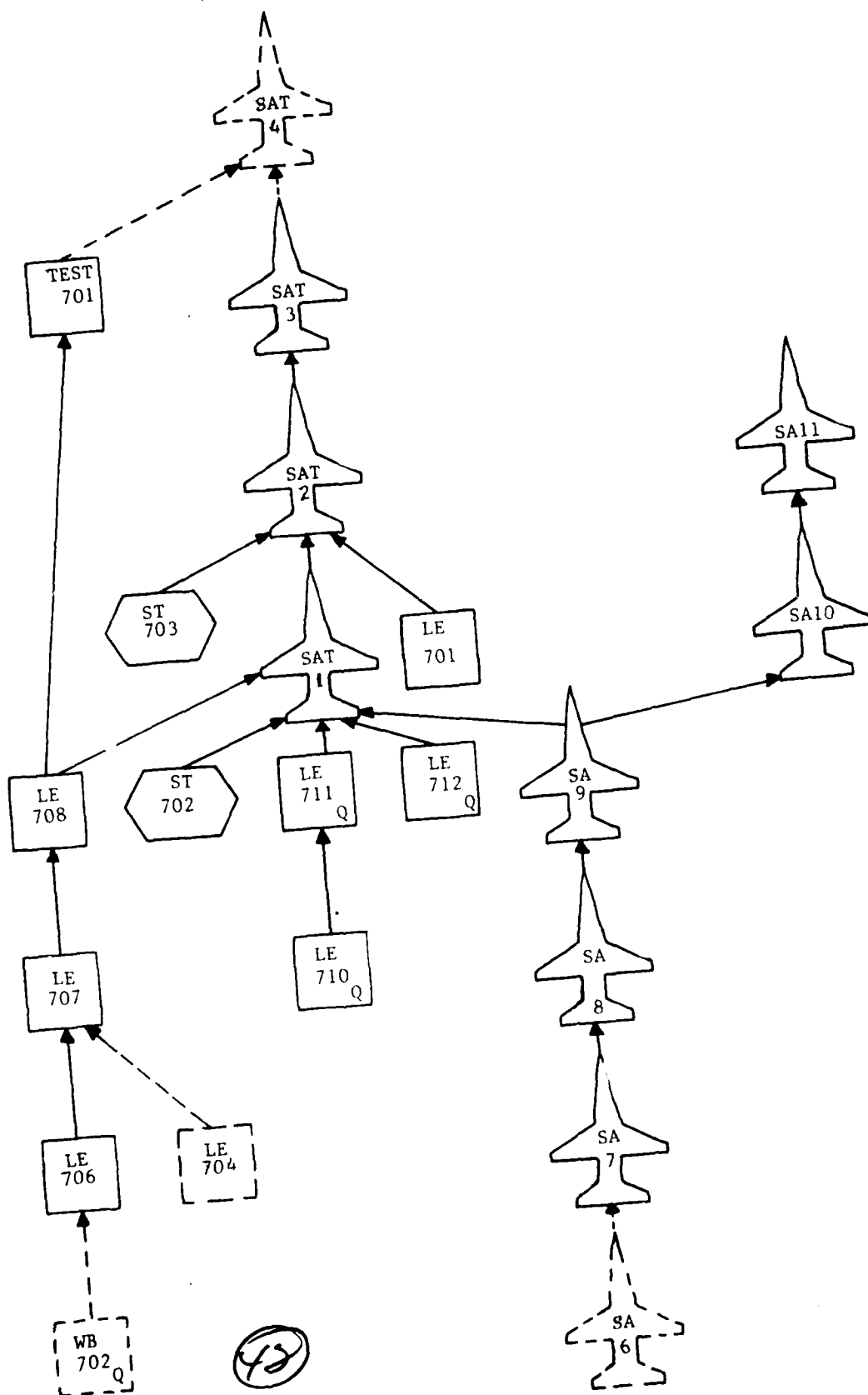


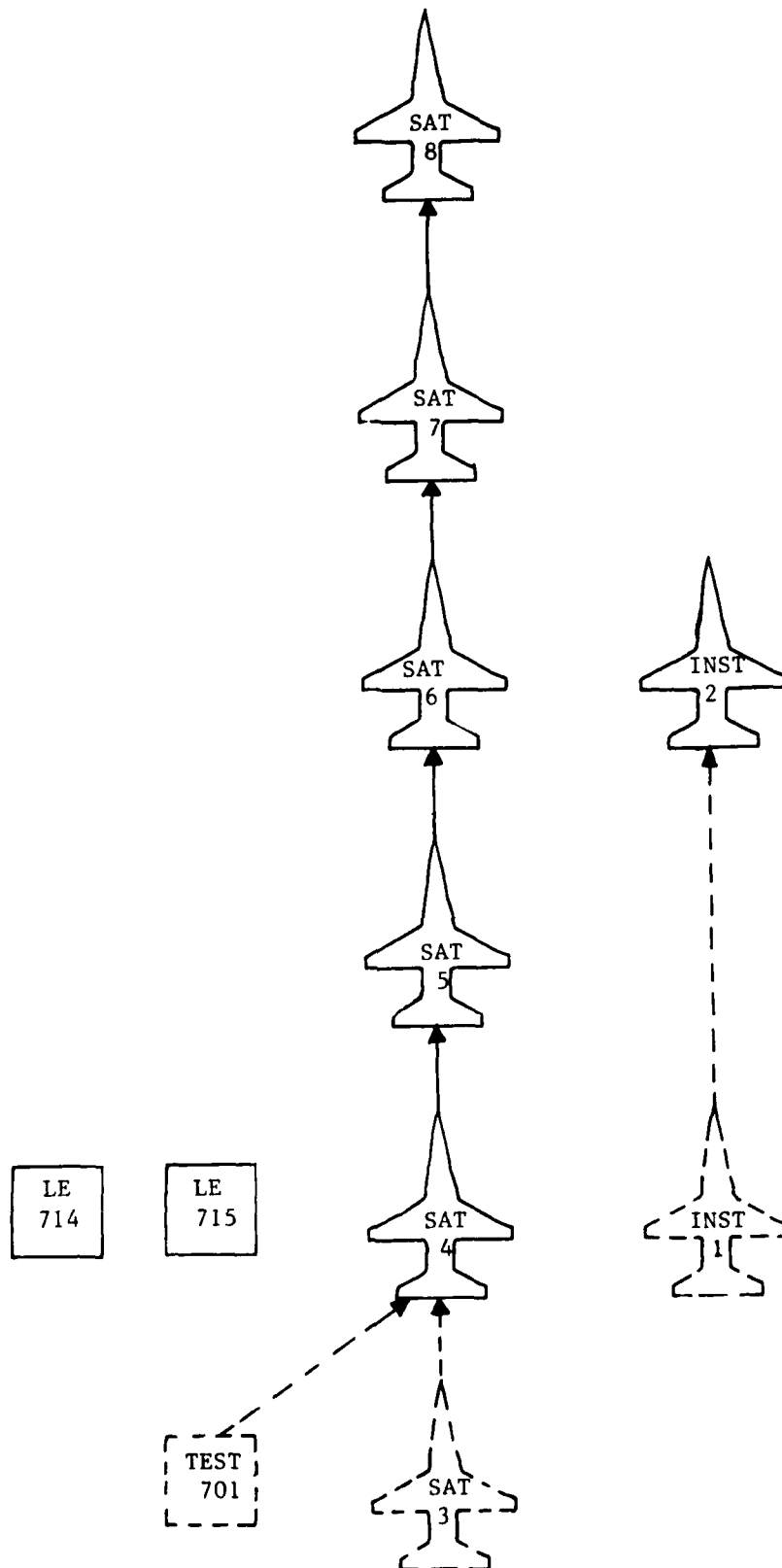












D. MANAGEMENT FLOW CHART

1. GENERAL

The Management Flow Chart is designed to assist course managers in scheduling student activities throughout the course. It should also be used by the student to insure he paces himself efficiently, and accomplishes prerequisite training no later than the required date and in the proper order. The Management Flow Chart does not always show the exact sequence in which training will be accomplished. It does portray the last day on which specific academic and hands-on training should be accomplished to allow flying training to progress normally. The chart was designed to allow a student to fly two sorties during each three day period. Since this particular concept is theoretical in nature, schedulers must insure an individual's flying training does not progress faster than an equivalent of two sorties each three days, OR the scheduler must accelerate academic training in consonance with flying training. The flow chart represents one way to progress through the Course Map. Therefore, other paths may be pursued so long as the student adheres to the prerequisites shown on the Course Map.

2. TRAINING DAYS

Several assumptions were made to determine a "typical" training day on the Management Flow Chart. The assumptions considered were time spent completing academic lessons, attending training device sessions, or flying training sorties. They are listed below:

- a. A typical training day is scheduled to include approximately eight hours of training. The training day may approximate ten hours during early training in preparation for ASPT and prior to the start of a new flying phase.
- b. Training device sessions include only session time. Travel time to the session, briefing time, and debriefing time are not included.
- c. 6 hours are allotted for each training flight.
- d. Individual academic lesson times from Section III were included to determine the length of each day. Although a conscientious effort was made to allot sufficient time to complete each individual academic lesson, it is recognized that some or all students may require additional study and/or review time. This time is inherently variable and the responsibility rests with the individual student to thoroughly learn the content of each lesson.

- e. Special squadron meetings other than those listed as Specialized Training are not included in the typical training day.
- f. Two flying training sorties are programmed for each 3 day period in the course. One additional training day is allotted between phases of training (between Conversion and Air-to-Air and between Air-to-Air and Air-to-Surface).

3. TDY

Due to the necessity of a TDY trip to Williams AFB to accomplish training in the ASPT, the student class is divided initially into two groups, A and B. This division starts on day eight. While one group trains in the ASPT, the other accomplishes CFT and other academic training at the home base. The ASPT is further divided into two travel groups to optimize ASPT utilization and minimize TDY per diem expense. After training is complete in the respective training device, group roles are switched. On day 20 the class is reunited and continues as a single unit for the remainder of the course.

TRAINING DAYS		1	2	3	4	5	6	7	8	9							
INDIVIDUAL / CLASSROOM ACADEMICS	WORKBOOK (WB)	101 I	101 II	108 106 102 104	110 111	109	112 103 107	114 113 115 101 III	105 121								
	WORKBOOK/SLIDE (WS)				104		101 107	102	105								
	AUDIO/SLIDE (AS)							105 101 113	107 109								
	VIDEO TAPE (VTR)		101					103	102								
	LECTURE TEST (LE, TE)		LE101	TE101	LE102	TE102 LE103	TE103 LE106		LE107	TE104 LE108 LE104 LE105							
TRAINERS PART TASKS	SPECIALIZED TRNG (ST)	101 102 103															
	ASPT																
	STATIC AIRCRAFT (AC)	101															
	PTT																
FLIGHT	CFT																

(A)

TRAINING DAYS		10	11	12	13	14	15	16	17	18	19						
INDIVIDUAL / CLASSROOM ACADEMICS	WORKBOOK (WB)																
	WORKBOOK/SLIDE (WS)																
	AUDIO/SLIDE (AS)						103 104	102 116 117			106						
	VIDEO TAPE (VTR)																
	LECTURE TEST (LE, TE)								LE109	TE105							
PARTNERS TASK	SPECIALIZED TRNG (ST)						104 105 106				107						
	ASPT	101 102	102 103	104 101	102 103	103 104											
	STATIC AIRCRAFT (AC)																
	PTT							101		102							
	CFT							101	102	103	104						
FLIGHT																	

(B)

TRAINING DAYS		10	11	12	13	14	15	16	17	18	19						
INDIVIDUAL / CLASSROOM ACADEMICS	WORKBOOK (WB)																
	WORKBOOK/SLIDE (WS)																
	AUDIO/SLIDE (AS)	103 104	102 116 117			106											
	VIDEO TAPE (VTR)																
	LECTURE TEST (LE, TE)			LE109	TE105												
TRAINERS PARTIAL TASKS	SPECIALIZED TRNG (ST)	104 105 106				107											
	ASPT						101 102	102 103	104 101	102 103	103 104						
	STATIC AIRCRAFT (AC)																
	PTT		101		102												
	CFT		101	102	103	104											
FLIGHT																	

TRAINING DAYS		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
INDIVIDUAL / CLASSROOM ACADEMICS	WORKBOOK (WB)	118			119				304	201		202 901		203	301	
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)	110								201						
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)									LE601	LE206		LE207			LE201 LE310
PARA TRAINERS PART TASK	SPECIALIZED TRNG (ST)						108	109								
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
FLIGHT	CFT												105			
		TR 1	TR 2		TR 3	INST 1		AHC 1	AHC 2		FORM 1	FORM 2		TR 4	TR 5	

TRAINING DAYS		35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
INDIVIDUAL / CLASSROOM ACADEMIC	WORKBOOK (WB)		902	302	303						903	904				
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)															
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)	LE205	LE309	LE311	LE303					LE312	LE308		LE351	LE313		
	SPECIALIZED TRNG (ST)	201			301			302								
TRAINERS PART TASK	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
	CFT															
FLIGHT			INCPT 1	INCPT 2		BFM 1	BFM 2		BFM 3	BFM 4		BFM 5	BFM 6		DART 1	DART 2

TRAINING DAYS		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
INDIVIDUAL ACADEMICS	WORKBOOK (WB)											501	505			
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)													501		
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)				LE202			LE314			TE201	LE401	LE402	LE403 LE404 LE501	TE401	LE507
TRAINERS PART TASK	SPECIALIZED TRNG (ST)															
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
	CFT															
FLIGHT			BFM 7	BFM 8		BFM 9	BFM 10		INCPT 3	BFM 11		BFM 12	BFM 13		BFM 14	D/ACM 1

TRAINING DAYS		65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
INDIVIDUAL / CLASSROOM ACADEMICS	WORKBOOK (WB)	502 503		504	601 602											
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)															
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)	LE503 LE504	LE502 LE509	LE506		LE602 TE501 LE603			LE604	LE605						
TRAINERS PART TASK	SPECIALIZED TRNG (ST)			501												
	ASPT															
	STATIC AIRCRAFT (AC)			501												
	PTT															
FLIGHT	CFT															
			D/ACM 2		NAV 1	NAV 2		NAV 3	NAV 4		NAV 5	BAM		SA 1	SA 2	

TRAINING DAYS		80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
I N D I V I D U A L / C L A S S R O O M A C A D E M I C S	WORKBOOK (WB)			603						703			701 702			
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)															
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)					LE606		TE601	LE702			LE703	LE704		LE712	LE706 LE707
P A R T T A S K	SPECIALIZED TRNG (ST)				601						701					
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT									AE701						
F L I G H T	CFT															
		SA 3	SA 4		SA 5	TR 6		SAN 1	SAN 2		SA 6	SA 7		SA 8	SA 9	

TRAINING DAYS		95	96	97	98	99	100	101	102	103	104	105	106	107	108	109 110
INDIVIDUAL ACADEMICS	WORKBOOK (WB)															
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)															
	VIDEO TAPE (VTR)															
	LECTURE TEST (LE, TE)	LE708	LE710	LE711	LE701		TE701		LE714	LE715						
TRAINERS PART TASK	SPECIALIZED TRNG (ST)			702 703												
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
FLIGHT	CFT															
		SA 10	SA 11		SAT 1	SAT 2		SAT 3	SAT 4		SAT 5	SAT 6		INST 2	SAT 7	SAT 8

SECTION III: ACADEMIC TRAINING

A. SPECIAL INSTRUCTIONS FOR ACADEMICS

1. GENERAL

Academic ground training is comprised of specialized training, individual programs, lectures, quizzes, and tests. Most academic training lessons or instruction are prerequisite to later academic instruction, training device sessions or flying tasks in the course. The Course Map and Management Flow Chart should be used by students to track their progress through the course and to insure that all individual lessons are completed on or before their scheduled completion dates. Lesson numbers are not sequential and are intended only to identify individual lessons on the Course Map.

2. SPECIALIZED TRAINING

Specialized training consists of phase briefings, local area orientation, map preparation, egress training, intelligence briefings, etc. This training will be scheduled by the flying squadron at appropriate times during the course.

3. INDIVIDUAL PROGRAMS

Workbooks, Workbook/Slides, Audio Slides, and Video Tapes are self-study programs. The student should determine that he has satisfied the prerequisites for a particular lesson prior to studying that lesson. The Learning Center provides study carrels with equipment for Workbook/Slides, Audio/Slides and Video Tapes. The student should consult the Course Map to determine if the lesson he is studying has a quiz. A "Q" in the lower-right corner of the lesson symbol indicates that a lesson has a quiz. The student must then report to the Learning Center and satisfactorily complete the quiz in order to receive credit for lesson completion. Students will not be allowed to participate in training device sessions or flights unless prerequisite lessons have been completed.

An academic instructor, serving as a Learning Center Monitor, should be available during normal duty hours to answer questions that may arise during self-paced instruction. Clarifications or problem areas should be brought to the attention of the OTD Team in the form of critiques, interviews, or telecon at the earliest convenience.

a. Workbooks (WB)

Workbooks contain objectives, instruction, and practice questions. Some are followed by an end-of-lesson quiz. Workbooks may also direct the student to other sources for study, e.g., Dash One and Phase Manuals. Questions taken from workbook quizzes will be included in the End-of-Module Comprehensive Test.

b. Workbook/Slides (WS)

These programs include slides accompanying the workbook to illustrate the lesson content more clearly. These programs require slide projection for completion.

c. Audio/Slides (AS)

These programs are listed as audio/slides (AS) in the syllabus and contain narrated material with synchronized visual displays. As with the other individual programs, AS may refer the student to other sources for additional study.

d. Video Tapes (VTR)

These programs provide presentations of areas of special interest or emphasis. Like WB, WS, and AS, they are self-study and an academic instructor or IP is assumed available to resolve student questions.

4. LECTURES (LE)

Lectures are provided at selected points in the academic training program to present new or very complex materials. Students should complete all prerequisite study before attending these lectures. In addition to presenting new material, the instructor may answer questions concerning the contents of self-paced materials (i.e. WB, WS, or AS programs) as well as summarize, or tie together, all the material in that block of instruction.

5. QUIZZES (Q)

Quizzes are provided at the end of some lessons to test the student's knowledge of the objectives for that lesson. The Course Map contains a "Q" in the lower-right corner of the symbol of each lesson that has an associated quiz. Often the answers to questions on the quiz may be found only in referenced sources. The quiz will be graded by learning center personnel and must be successfully completed (corrected to 100%) to satisfy the requirements of that lesson.

6. TESTS

Periodic tests will be administered to measure the student's achievement of objectives for major sections of academics. Each test will sample the objectives contained in that section and will draw its questions from the individual sessions.

7. COURSE CRITIQUES

Mandatory course critiques will be administered to the student at approximately mid-course and at course end. Additionally, critiques are available for student or instructor comments whenever they occur. Critiques provide feedback to course managers concerning student's perceptions of lesson validity, instructional clarity, and suggestions for improvements.

B. SPECIALIZED TRAINING (ST)

ST101	Lecture
Squadron Briefing Room	3.0

ADMINISTRATION: Commander's welcome, overview of base, in-processing.

ST102	Lecture
Classroom	1.0

COURSE OVERVIEW: Introduction, flow, training aids, documentation, student responsibilities.

ST103	Lecture
Classroom	1.0

AIRCRAFT OVERVIEW: General features and characteristics.

ST104	Lecture/Part-
Life Support Shop and Egress Training Shop	Task trainer
	8.0 (Total)

PERSONAL EQUIPMENT, LIFE SUPPORT, AND EGRESS TRAINING: Briefing on use of personal equipment; issue and fitting of personal equipment; ejection seat and egress training in the EPT; and hanging harness. Before attending this lecture each student should review applicable portions in Sections I, II, and III of the Dash One. The initial life support training is approximately 4.0 hours. Monthly refresher training will require approximately one hour each.

ST105	Lecture/VTR
Learning Center	.5

LOCAL AREA ORIENTATION: Airfield information; local flying area; required items for flight; use of transition area airspace; local air traffic control zones; restricted flying areas; VFR traffic patterns and re-entry; controlled bailout area; divert/recall procedures; alternate airfields.

ST106
Squadron Map Room

Workshop
1.0

PREPARATION OF LOCAL FLYING AREA MAP.

ST107
Classroom

Lecture
2.0

CONVERSION PHASE BRIEFING: Before attending this lecture, each student should review the applicable portions of TACR 55-16, Local Chapter 8, AFR 60-15 Formation Signals, Inflight Guide, and the Conversion Phase Manual. The briefing will cover preflight planning and data collection procedures (weather data, takeoff/landing data, other ops information for mission data card, sign-out, and FCIF).

ST-108
Classroom

Lecture
8.0

INSTRUMENT SCHOOL.

ST-109
Wing

Test
3.0

OPEN/CLOSED BOOK TEST: Administered by STAN/EVAL.

ST-201
Classroom

Lecture
1.0

INTERCEPT (INTCP) MODULE BRIEFING: Before attending this lecture each student should review the intercept portion of the Air-to-Air Phase Manual and the applicable portions of TACR 55-16, Local Chapter 8, and MCM 55-200.

ST-301
Classroom

Lecture
1.0

BFM, D/ACM, MODULE BRIEFING: Before attending this lecture each student should review the applicable portions of the Air-to-Air Phase Manual, TACR 55-16, Local Chapter 8, and TACR 51-2.

ST-302
Classroom

Lecture
2.5

INTELLIGENCE TRAINING: Wing/Intel will conduct intelligence training. Special emphasis will be placed on air-to-air threat recognition, distribution, capabilities, and tactical considerations.

ST-501
Classroom

Lecture
2.0

NAVIGATION AND SURFACE ATTACK MODULE BRIEFING: Before attending this lecture each student should review the Surface Attack Phase Manual, TACR 55-16, Local Chapter 8, TACM 51-50 for hit and foul criteria, and AFR 50-46 and local supplements for conventional range descriptions and procedures.

ST-601
Classroom

Lecture
2.0

NIGHT TRANSITION AND SURFACE ATTACK NIGHT (SAN) MODULE BRIEFING: Before attending this lecture each student should review TACR 55-16, Local Chapter 8, AFR 60-15, TACM 51-50 for night delivery restrictions, and AFR 50-46 and local supplements for night range descriptions and procedures.

ST-701
Classroom

Lecture
2.5

INTELLIGENCE TRAINING: Wing/Intel will conduct intelligence training. Special emphasis will be placed on surface-to-air threat recognition, distribution, capabilities, and tactical considerations.

ST-702
Classroom

Lecture
1.5

SURFACE ATTACK TACTICS (SAT) MODULE BRIEFING: Before attending this lecture each student should review TACR 55-16, Local Chapter 8, TACM 51-50 for tactical delivery restrictions, and AFR 50-46 and local supplements for tactical range descriptions and procedures.

ST-703
Classroom

Lecture
1.0

INTELLIGENCE TRAINING: Escape and evasion.

C. WORKBOOKS (WB)

WB101 I
Learning Center

Workbook
1.0

Engine system.

WB101 II
Learning Center

Workbook
3.0

Engine system.

WB101 III
Learning Center

Workbook
2.0

Engine system malfunctions.

WB102
Learning Center

Workbook
.6

EPU system.

WB103
Learning Center

Workbook
.6

Environmental control and oxygen systems.

WB104
Learning Center

Workbook
2.0

Fuel system.

WB105
Learning Center

Workbook
.7

Precautionary/flameout landing procedures.

WB106 Learning Center	Workbook 1.5
Electrical power system.	
WB107 Learning Center	Workbook 1.3
Communications/TACAN/ILS/IFF, and interior lighting systems.	
WB108 Learning Center	Workbook 1.5
Hydraulic system.	
WB109 Learning Center	Workbook 2.0
Landing gear, nosewheel steering, wheel brake, and arrestment systems.	
WB110 Learning Center	Workbook 1.3
Air Data and flight instruments systems.	
WB111 Learning Center	Workbook 2.8
Flight control system.	
WB112 Learning Center	Workbook 1.0
Inertial navigation and weapons delivery system (Conversion).	
WB113 Learning Center	Workbook 1.0
Procedures for FCNP/avionics set-up and navigation to steerpoints.	

WB114 Learning Center Head-up display system.	Workbook .8
WB115 Learning Center Radar system.	Workbook 2.2
WB118 Learning Center Formation references and night formation.	Workbook .5
WB119 Learning Center Two-ship line abreast formation and turns.	Workbook 1.0
WB121 Learning Center Takeoff emergencies.	Workbook .7
WB201 Learning Center Collision course geometry.	Workbook 1.5
WB202 Learning Center Intercept considerations.	Workbook 1.5
WB203 Learning Center AIM-9 J/L set-up and switchology.	Workbook 2.0

WB301
Learning Center

Workbook
.7

Air-to-Air gun attacks and the tracking problem.

WB302
Learning Center

Workbook
1.5

Computed gun attack modes: LCOS and SS.

WB303
Learning Center

Workbook
.7

Fence check.

WB304
Learning Center

Workbook
2.5

Energy maneuverability and HUD energy management symbology.

WB501
Learning Center

Workbook
.6

SMS Air-to-Surface operations.

WB502
Learning Center

Workbook
1.2

Procedures for stores jettison and approach with asymmetric stores. Diagnosis for ordnance failure to release.

WB503
Learning Center

Workbook
1.0

Inertial navigation and weapons delivery system (Surface Attack).

WB504
Learning Center

Workbook
1.2

Procedures for verifying position using INS data and performing all INS updates, radar altitude calibration, and offset aimpoints.

WB505
Learning Center

Workbook
1.0

Heavyweight aircraft performance calculations.

WB601
Learning Center

Workbook
1.5

Manual weapons delivery calculations.

WB602
Learning Center

Workbook
1.0

Procedures, parameters, and error analysis for manual delivery of ordnance.

WB603
Learning Center

Workbook
.7

Special considerations for night ground operations.

WB701
Learning Center

Workbook
.5

Safe escape and frag pattern parameters.

WB702
Learning Center

Workbook
1.0

Mission planning: Day interdiction.

WB703
Learning Center

Workbook
.7

Chaff/flare preflight and set-up.

WB901
Learning Center

Workbook
.4

Trail departure, with and without radar.

WB902
Learning Center

Workbook
.5

Formation takeoff.

WB903
Learning Center

Workbook
1.0

Air-to-Air refueling.

WB904
Learning Center

Workbook
.7

Formation approach and landing (lead and wing).

D. WORKBOOK/SLIDES (WS)

WS101	Workbook/Slide
Learning Center	.6

Normal gyrocompass alignment and destination entry.

WS102	Workbook/Slide
Learning Center	.6

Loading and verification of the SMS.

WS104	Workbook/Slide
Learning Center	.5

FLCS self-test.

WS105	Workbook/Slide
Learning Center	.8

Instrument recoveries in the F-16.

WS107	Workbook/Slide
Learning Center	.5

Stored heading and best available true heading (BATH) alignments.

E. AUDIO/SLIDES (AS)

AS101
Learning Center

Audio/Slide
.5

Engine system malfunctions.

AS102
Learning Center

Audio/Slide
.5

Fuel system malfunctions.

AS103
Learning Center

Audio/Slide
.7

ADC, LE flap, flight control system caution lights.

AS104
Learning Center

Audio/Slide
.7

Dual flight control warning light.

AS105
Learning Center

Audio/Slide
.9

Cruise energy management.

AS106
Learning Center

Audio/Slide
.4

Single snip takeoff.

AS107
Learning Center

Audio/Slide
.6

Engine start procedures.

AS109
Learning Center

Audio/Slide
.5

Exterior aircraft inspection checklist procedures.

AS110
Learning Center

Audio/Slide
.4

Formation taxi and lineup.

AS113
Learning Center

Audio/Slide
.5

Engine fire/overheat.

AS116
Learning Center

Audio/Slide
.5

Electrical system malfunction identification.

AS117
Learning Center

Audio/Slide
.5

Malfunctions indicated by the hydraulic/oil pressure warning light.

AS201
Learning Center

Audio/Slide
.8

Air-to-air radar search and lock-on.

AS501
Learning Center

Audio/Slide
.6

External stores inspections including wing and centerline pylons: SUU-20 and M61A1.

F. VIDEO TAPES (VTR)

VTR101
Classroom or Carrel

Videotape
0.2

High Performance Breed (introduction to F100-PW-200 engine).

VTR102
Classroom or Carrel

Videotape
0.8

Flameout Landing.

VTR103
Classroom or Carrel

Videotape
0.3

Air Starts.

G. LECTURES (LE)

LE101
Classroom

Lecture 4.0

Engine system.

LE102
Classroom

Lecture 4.0

Hydraulic, electric, EPU, and fuel systems.

LE103
Classroom

Lecture
4.0

Flight control system.

LE104
Classroom

Lecture
1.8

Aircraft handling, flight characteristics, and conversion maneuvers.

LE105
Classroom

Lecture 2.0

Procedures for VFR patterns and landings in the F-16.

LE106
Classroom

Lecture
2.0

Avionics systems introduction.

LE107
Classroom

Lecture 4.0

Avionics system.

LE108 Classroom	Lecture 1.0
After engine start through before takeoff procedures.	
LE109 Classroom	Lecture 4.0
Emergency procedures review.	
LE201 Classroom	Lecture 2.0
AIM-9 characteristics and employment.	
LE202 Classroom	Lecture 1.5
Varieties of single-ship tactical intercepts.	
LE205 Classroom	Lecture 4.0
GCI capabilities, limitations, procedures, and employment considerations. Sufficient time is programmed for an orientation visit to a GCI facility, if available.	
LE206 Classroom	Lecture 2.0
F-16 Radar Air-to-air capabilities and applications.	
LE207 Classroom	Lecture 2.5
Intercept geometry.	

LE303
Classroom

Lecture
1.5

Principles and techniques for making a gun attack in the F-16.

LE308
Classroom

Workbook/Lecture
2.2

ALR-69: Introduction, turn-on, BIT, symbology, and malfunctions.

LE309
Classroom

Lecture
2.0

F-16 flight characteristics as applied to Air-to-Air.

LE310
Classroom

Lecture
1.0

F-16 energy maneuverability and comparisons with adversary aircraft.

LE311
Classroom

Lecture
2.0

BFM: Offensive maneuvers review and F-16 applications.

LE312
Classroom

Lecture
2.0

BFM: Defensive maneuvers review and F-16 applications.

LE313
Classroom

Lecture
2.0

Applications of defensive BFM.

LE314
Classroom

Lecture
1.0

Neutral BFM considerations.

LE351
Classroom

Lecture
1.3

DART firing patterns and rules of engagement.

LE401
Classroom

Lecture
1.2

Procedures and considerations for sequential attack and shooter cover.

LE402
Classroom

Lecture
1.2

Procedures and considerations for free and engaged fighters in two-ship counteroffensive combat.

LE403
Classroom

Lecture
1.2

Air-to-Air attack feasibility and weapon selection.

LE404
Classroom

Lecture
1.5

Two-ship formation intercept.

LE501
Classroom

Lecture
1.5

Considerations for planning a nuclear mission and principles, procedures, and considerations of enroute mission planning including selection of enroute navigation modes, aids to navigation, altitude/airspeed profiles, and rules of thumb for adjusting profiles to make a TOT.

LE502
Classroom

Lecture
1.0

Nuclear weapons familiarization.

LE503
Classroom

Lecture
1.5

Principles, procedures, and applications of level/laydown and LADD attack.

LE504
Classroom

Lecture
1.3

Procedures for using VIP and VRP modes.

LE506
Classroom

Lecture
1.3

Preparation of enroute map.

LE507
Classroom

Lecture
2.0

Procedures for navigation using ground mapping radar including radar interpretation and effects of radar jamming.

LE509
Classroom

Lecture
1.5

SMS set-up for nuclear training ordnance.

LE601
Classroom

Lecture
1.5

Principles and procedures for low altitude tactical formations including comm out procedures.

LE602
Classroom

Lecture
1.5

CCIP and DTOS delivery of free fall munitions.

LE603
Classroom

Lecture
.5

Principles and procedures for strafing using CCIP and manual modes.

LE604
Classroom

Lecture
2.5

Computed delivery error analysis.

LE605
Classroom

Lecture
2.0

Rules and procedures for pop-up attacks.

LE606
Classroom

Lecture
1.7

Considerations for Night Surface Attack with and without flares.

LE701
Classroom

Lecture
1.0

Non-nuclear alert/scramble procedures.

LE702
Classroom

Lecture
2.0

Non-nuclear ordnance preflight.

LE703
Classroom

Lecture
2.2

Comm jamming and ECM support.

LE704
Classroom

Lecture
2.0

Penetration Aids: ALQ-119 ECM pod, and ALR-69.

LE706
Classroom

Lecture
1.5

Ordnance selection: Target characteristics, weapons effects, and JMEM.

LE707
Classroom

Lecture
2.0

Attack planning considerations.

LE708
Classroom

Lecture
2.0

High threat interdiction attack profiles.

LE710
Classroom

Lecture
2.0

Principles and procedures for Close Air Support (CAS).

LE711
Classroom

Lecture
1.0

Medium/low threat attack patterns.

LE712
Classroom

Lecture
2.0

Armed recce.

LE714
Classroom

Lecture
2.0

Special missions: SCAR, hunter-killer, ASRT, SAR, ship attack, and escort.

LE715
Classroom

Lecture
2.0

Special weapons and systems: Maverick, Hobo, TISL/Pave Penny, and Beacon.

H. TESTS

TEST 101
Classroom

Test and Review
2.5

Engine Test. Testable material: WB101 I, WB101 II, VTR101, LE101.

TEST 102
Classroom

Test and Review
2.0

Hydraulic, Electric, EPU, Fuel Test. Testable material: WB102, WB104, WB106, WB108, LE102.

TEST 103
Classroom

Test and Review
2.0

Flight Control System, Landing Gear, Hook, Brakes, Nosewheel Steering Test. Testable material: WB109, WB110, WB111, WS104, LE103.

TEST 104
Classroom

Test and Review
2.0

Avionics Test. Testable material: WB112, WB113, WB114, WB115, WS101, WS102, WS107, AS105, LE106, LE107.

TEST 105
Classroom

Test and Review
2.0

Emergency Procedures Test. Testable material: WB101 III, WB105, WB121, AS101, AS102, AS103, AS104, AS113, AS116, AS117, VTR102, VTR103, LE109.

TEST 201
Classroom

Test and Review
2.0

Intercept Test. Testable material: WB201, WB202, WB203, AS201, LE201, LE202, LE205, LE206, LE207.

TEST 401
Classroom

Test and Review
2.0

Air-to-Air Test. Testable material: WB301, WB302, WB303, WB304, LE303, LE308, LE309, LE310, LE311, LE312, LE313, LE314, LE351, LE401, LE402, LE403, LE404.

TEST 501
Classroom

Test and Review
2.0

NAV/NUC Test. Testable material: WB501, WB502, WB503, WB504, WB505, AS501, LE501, LE502, LE503, LE504, LE506, LE507, LE509.

TEST 601
Classroom

Test and Review
2.0

BAM/SA/SAN Test. Testable material: WB601, WB602, WB603, LE601, LE602, LE603, LE604, LE605, LE606.

TEST 701
Classroom

Graded Exercise
4.0

Practical Exercise: Planning a day interdiction mission. This exercise integrates and tests knowledge of the following lessons: WB701, WB702, WB703, LE703, LE704, LE706, LE707, LE708.

SECTION IV: AIRCREW TRAINING DEVICES (ATD)

A. SPECIAL INSTRUCTIONS

1. The ATD sessions describe a preferred method of accomplishing the required training. However, training may be accomplished by other means at Squadron Commander discretion, provided the training is not compromised. The intent is to provide the flexibility to accomplish training in the event that a particular device is not available.
2. The following is a suggested method to accomplish avionics training (PTT sessions):
 - a. Practice FCNP and SMS tasks in static aircraft with external power and cooling air applied.
 - b. Use videotape or gun camera film to review the various HUD symbology.
 - c. Practice FCNP and SMS tasks on available maintenance trainers.
3. PTT and ASPT specific mission tasks may be modified at IP discretion to support individual student needs and account for varying equipment capabilities.
4. Due to the time-intensive nature of ASPT training, two instructors are required when student load dictates back-to-back missions. This allows one instructor to brief/debrief while the other instructor conducts a mission. As a guide, one instructor should conduct a maximum of four sorties per day.

B. EGRESS PROCEDURES TRAINER (EPT)

ST-104

MISSION DESCRIPTION: Preflight ejection seat; cockpit ingress and strap-in; controlled ejection; canopy failure to separate; immediate ejection; emergency ground egress.

NOTE: This is the training device session outlined in ST-104 as initial and refresher ejection seat/egress training.

C. COCKPIT FAMILIARIZATION TRAINER (CFT)

CFT-101

1:1 Ratio
1.5 Hour

MISSION DESCRIPTION: Cockpit interior checks (power off); before start checks; normal engine start checks and emergency engine shutdown procedures; after start checks; before taxi, taxi, and before takeoff checks; after landing checks; before engine shutdown checks and shutdown procedures; before leaving cockpit procedures; normal cockpit egress.

CFT-102

1:1 Ratio
1.5 Hours

MISSION DESCRIPTION: Introduction to emergency procedures; identification of and response to selected ground and in-flight emergencies using checklist. Engine start problems; taxi problems; takeoff emergencies; landing gear problems after takeoff; air conditioning and pressurization malfunctions; fuel system malfunctions; oxygen system malfunctions; leading edge flap malfunction; low altitude ejection; canopy loss; engine and engine control malfunctions. (Continued on CFT-103.)

CFT-103

1:1 Ratio
1.5 Hour

MISSION DESCRIPTION: Identification of and response to selected inflight and landing emergencies using checklist. Electrical system malfunctions; hydraulic system malfunctions; CADC caution light; flight control system malfunctions; out of control procedures; avionics malfunctions; landing gear failures; structural damage; jettison procedures; landing emergencies; and brake failure.

CFT-104

0:1 Ratio
1.5 Hour

MISSION DESCRIPTION: Review and practice of normal and emergency procedures.

CFT-105

1:1 Ratio
1.5 Hours

MISSION DESCRIPTION: Emergency procedures check to satisfy the requirements of TACR 60-2. Administered by STAN/EVAL as a prerequisite to TR-5, the Initial Qualification check. Identification of and response to selected ground and inflight emergencies using checklist.

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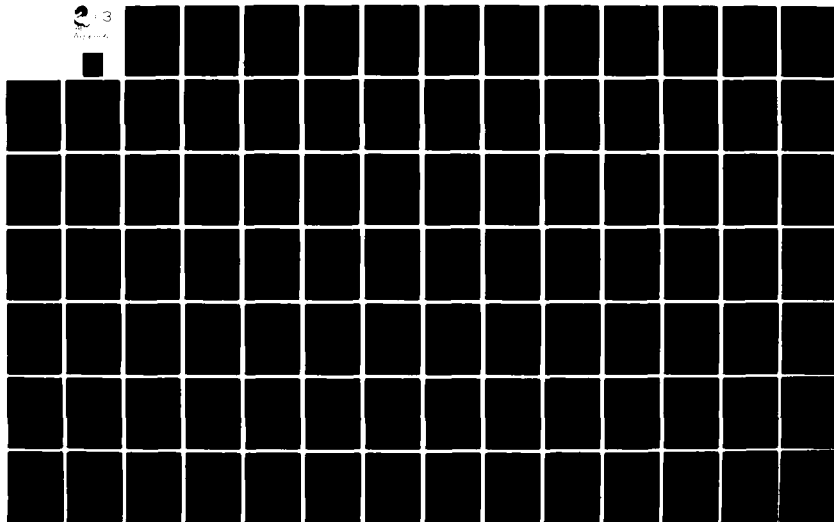
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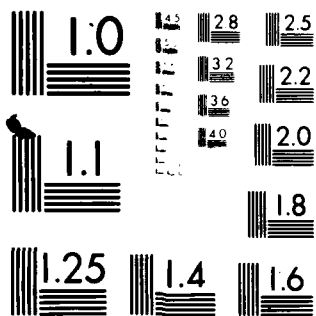
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MICROCOPY RESOLUTION TEST CHART
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D. STATIC AIRCRAFT (AC)

AC-101

1:4 Ratio
1.0 Hour

DESCRIPTION: Aircraft familiarization and preflight; exterior inspection; before entering cockpit checks; ejection seat inspection; rear cockpit inspection for solo flight; cockpit ingress including strap-in.

AC-501

0.5 Hour

DESCRIPTION: Videotape recorder/camera setup; wing and centerline pylon inspection; inspect SUU-20 B/A bomb dispenser loaded with BDU-33 and MK-106 bombs.

E. PART TASK TRAINING (PTT)

PTT-101

1:2 Ratio
1.0 Hour

MISSION DESCRIPTION: FCNP Operations: Turn-on, INS alignment, D-value altitude calibration, MFL clearing, enter BGO fuel and HOM steerpoint selection. Introduction to HUD symbology.

PTT-102

1:2 Ratio
1.0 Hour

MISSION DESCRIPTION: FCNP Operations: All tasks from PTT-101, select Endurance and Range modes, check OFP; SMS operations: Turn-on, stores verification/loading, missile select, jettison; REO operations: turn-on, set-up for conversion two-ship radar trail tasks, cursor slew, lock-on, automatic acquisition/lock-ons, HUD ILS straight-in approach.

F. ADVANCED SIMULATOR FOR PILOT TRAINING (ASPT)

NOTE: Touch and go's and full stop landings may be performed on all ASPT sorties.

ASPT-101

1.0 Hour

MISSION OBJECTIVES: Introduce takeoff, aircraft handling characteristics, aerobatics, takeoff and final approach.

SPECIAL MISSION TASKS: MIL takeoff, VFR climbout, aircraft handling demonstrations (AOA limiter, G limiter, 30° climb, G command, AB at slow speed, AB at high speed, transonic, slow flight), aerobatics (loop, split-s, Immelmann), visual straight-in/low approach, VFR re-entry, final approach/glide slope practice from TACAN FAF.

ASPT-102

1.0 Hour

MISSION OBJECTIVES: Introduce confidence maneuvers, advanced handling maneuvers, VFR overhead patterns, closed patterns, instrument flying, and unusual attitude recoveries. Practice takeoff.

SPECIFIC MISSION TASKS: MIL Takeoff, SID, confidence maneuvers, (nose high recovery maneuver, vertical confidence maneuver), advanced handling maneuvers (pitchback, sliceback, reversals/rolling maneuvers), basic instruments (level turns, vertical-S, wingovers, rolls, loops, slow flight in landing configuration), unusual attitude recoveries, enroute descent, PAR (weather: 1000/1), ILS (weather: 1000/1), VFR re-entry, VFR overheads, closed patterns.

ASPT-103

1.0 Hour

MISSION OBJECTIVES: Introduce AB takeoff and climbout; TACAN holding, penetration, and approach; simulated flameout/precautionary landing patterns (SFO/PLP); HUD out pattern; and engine stall/stagnation/airstart training.

SPECIFIC MISSION TASKS: AB takeoff and climb, instrument maneuvers (wingovers, rolls, loops), unusual attitude recoveries, HUD out overhead patterns, engine stall/stagnation/airstart training. **NOTE:** Allow at least 30 minutes for engine stall/stagnation/airstart training.

ASPT-104

1.0 Hour

MISSION OBJECTIVES: Introduce TACAN holding and penetration. Practice normal takeoff/departure, aircraft handling maneuvers, instrument approaches, SFO/PLP patterns, HUD out instrument approaches, normal overhead pattern, and closed pattern.

SPECIFIC MISSION TASKS: Mil takeoff and departure; basic/advanced handling maneuvers; TACAN holding, penetration, approach (weather: 600 and 3/4); PAR; ILS; HUD out instrument approaches; SFO/PLP; overhead/closed patterns.

G. ACTUAL EQUIPMENT (AE)

AE-701

3.0 Hour

DESCRIPTION: Inspect the following weapons (training munitions configuration) if available:

- GBU-8/B EO guided bomb
- GBU-10/B, GBU-10A/B laser guided bombs
- CBU-58/B and CBU-71/B dispensers and bombs
- MK-20 MOD 4 antitank cluster bomb
- SUU-25C/A flare dispenser
- AGM-65 A/B air-to-surface guided missile
- BDU-33 practice bomb on BRU-31/A or TER-9A rack
- MAU-12 C/A rack (nuclear)
- B43 bomb (nuclear)
- B57 bomb (nuclear)
- B61 bomb (nuclear)
- MK-82, MK-82 snakeye, and MK-36 bombs

SECTION V: FLYING TRAINING

A. CONVERSION PHASE

1. SPECIAL INSTRUCTIONS FOR CONVERSION PHASE

- a. TR-4 is a practice for the TR-5 check ride. Both TR-4 and TR-5 will be briefed by the student.
- b. Until arrival of the Operational Flight Trainer (OFT) the first X ride in conversion will not be counted against the total number of X rides allowed in the phase.
- c. INST-1 and 2 are comprehensive reviews and practice of instrument tasks. INST-1 will be flown after TR-3 and prior to TR-5. INST-2 should be flown one or two sorties prior to the end of the course.
- d. Refer to Section I, Part C, paragraph 6 to find authorized aircraft configurations.

2. TRANSITION (TR) MODULE

TR-1 Acft: F-16B
Crew: P/IP

Time: 1.3

MISSION OBJECTIVES: Introduce transition/instrument procedures and aircraft handling characteristics.

SPECIFIC MISSION TASKS: MIL takeoff, departure, aircraft handling demonstrations, nose high recovery maneuver, vertical confidence maneuver, VFR straight-in, ILS, GCA (PAR preferred), touch and go landings, normal landing.

TR-2 Acft: F-16B
Crew: P/IP

Time: 1.3

MISSION OBJECTIVES: Introduce unusual attitude recoveries, TACAN procedures, and aerobatic maneuvers. Practice confidence maneuvers and landings.

SPECIFIC MISSION TASKS: MIL takeoff, departure, aircraft handling demonstrations, nose high recovery maneuver, vertical confidence maneuver, unusual attitude recoveries, aerobatics; TACAN holding, penetration, and approach; VFR overhead patterns; touch and go landings; normal landing.

TR-3 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.3

MISSION OBJECTIVES: Introduce AB takeoff/climb and two-ship formation; simulated flameout and precautionary landing patterns (SFO/PLP) and HUD out recovery/landing. Practice transition airwork and landing patterns.

SPECIFIC MISSION TASKS: Single-ship takeoff and departure (AB); formation (fingertip, route, crossunders, lost wingman exercise, pitch out and rejoin); SPLIT-UP; review confidence maneuvers; unusual attitude recoveries; HUD out recovery and landing; SFO/PLP; ILS; VFR overhead patterns; and normal landings.

*TR-4 Acft: F-16A, F-16A
Crew: P, IP

Time: 1.5

NOTE: Flown after AHC and FORM sorties.

MISSION OBJECTIVES: Review ride in preparation for Initial Qualification/Instrument check.

SPECIFIC MISSION TASKS: Single-ship takeoff (MIL); departure; formation practice; confidence maneuvers; selected aerobatics; TACAN penetration and approach; ILS, GCA; SFO/PLP; VFR overhead patterns; and normal landing.

TR-5 Acft: F-16A, F-16A
Crew: P, SEFE

Time: 1.5

MISSION OBJECTIVES: STAN/EVAL Initial Qualification/Instrument check to be flown in accordance with TACR 60-2.

SPECIFIC MISSION TASKS: Single-ship takeoff; departure; level-off; navigation; fingertip/route formation (wing); pitchout and rejoin; confidence maneuvers; selected aerobatic maneuvers; TACAN holding, penetration, and approach; missed approach; instrument pattern; GCA (PAR); ILS; VFR overhead pattern, go-around, and closed pattern; SFO/PLP; and normal landing.

TR-6 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce night operations and night air refueling.

SPECIFIC MISSION TASKS: Single-ship takeoff; departure; night formation practice; night air refueling; SPLIT-UP; TACAN; ILS; GCA; touch and go's; normal landing.

NOTE: This sortie may be flown anytime after TR-5 but is scheduled to be flown at the start of the SAN module. The student's first air refueling must be a day AAR.

3. INSTRUMENT (INST) MODULE

INST-1 Acft: F-16B
Crew: P/IP

Time: 1.5

MISSION OBJECTIVES: Comprehensive review and practice of instrument tasks.

SPECIFIC MISSION TASKS: Instrument takeoff and departure (MIL); simulated IFR navigation to area; steep turns, vertical-S's; unusual attitude recoveries; TACAN ARC and radial interception; point-to-point navigation; TACAN holding; TACAN penetration and approach; missed approach; ILS; GCA's (precision and non-precision); and HUD out approaches and landing.

INST-2 Acft: F-16B or F-16A, F-16A
Crew: P/IP or P, IP

Time: 1.5

MISSION OBJECTIVES: Comprehensive review and practice of instrument tasks.

SPECIFIC MISSION TASKS: Instrument takeoff and departure (MIL); simulated IFR navigation to area; steep turns, vertical-S's; unusual attitude recoveries (if dual); TACAN ARC and radial interception; point-to-point navigation; TACAN holding; TACAN penetration and approach; missed approach; ILS; GCA's (precision and non-precision); and HUD out approaches and landing.

4. ADVANCED HANDLING CHARACTERISTICS (AHC) MODULE

AHC-1 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.3

MISSION OBJECTIVES: Introduce two-ship tactical formation and tactical trail.

SPECIFIC MISSION TASKS: Single-ship takeoff; formation departure; tactical formation to and from area including weave; tactical trail; SPLIT-UP; pitchback, sliceback, reversals, sustained turns; single-ship TACAN penetration and approach; VFR overhead patterns; and normal landing.

AHC-2 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce solo flight. Practice two-ship tactical formation and tactical trail; advanced handling, and patterns.

SPECIFIC MISSION TASKS: Single-ship takeoff, formation departure, tactical formation, tactical trail; SPLIT-UP; pitchback; sliceback; reversals; rejoin; formation recovery, formation approach (lead); VFR overhead patterns, and normal landing (IP chase patterns).

5. FORMATION (FORM) MODULE

FORM-1 Acft: F-16A, F-16A, F-16B, F-16A Time: 1.5
Crew: IP, P, P/IP, P

MISSION OBJECTIVES: Introduce four-ship formation.
Practice formation recovery and patterns.

SPECIFIC MISSION TASKS: Single-ship takeoff; formation departure; fingertip, route, lost wingman exercise, and tactical four-ship formation practice; SPLIT-UP; two-ship tactical formation practice; tactical trail; formation recovery; formation approach; VFR overhead patterns; and normal landing.

*FORM-2 Acft: F-16A, F-16A, F-16B, F-16A Time: 1.5
Crew: IP, P, P/IP, P

MISSION OBJECTIVES: Introduce four-ship low altitude tactical formation (LATF) at medium altitude. Practice two-ship tactical formation and recovery.

SPECIFIC MISSION TASKS: Single-ship takeoff; formation departure; practice four-ship LATF at medium altitude; SPLIT-UP; two-ship tactical formation practice; tactical trail; formation recovery; formation approach; VFR patterns; and normal landing.

B. AIR-TO-AIR PHASE

1. SPECIAL INSTRUCTIONS FOR AIR-TO-AIR

- a. Intercept 3 (INTCP-3) may be flown any time after BFM-6, but must be flown before BFM-11.
- b. Commensurate with student proficiency and aircraft/sortie availability, the squadron commander may approve the following:
 - 1) Offensive or defensive BFM sorties may be advanced to neutral set-ups.
 - 2) During BFM, the scenario difficulty may be increased to 2 v 1.
 - 3) BFM-13 and 14 may be flown against dissimilar aircraft, or increased to a 2 v 1 scenario.
 - 4) D/ACM sortie scenario difficulty may be increased to tactical set-ups.

NOTE: In all cases, the proficiency level required must be met or exceeded before the student is allowed to advance to the next module.

- c. If dissimilar aircraft are not available for D/ACM sorties in this syllabus, the missions may be flown against other F-16s. Student grade slips will be annotated to reflect type aircraft actually flown against.
- d. Maximum effort will be made to obtain dissimilar aircraft support.
- e. Although formation landing and AAR are programmed to be introduced on BFM-6, both tasks may be flown earlier in the Air-to-Air Phase if the following requirements are met. Both tasks must be introduced in a B-model and the student must perform a wing approach to a grade of 2 prior to his formation landing.
- f. Refer to Section I, Part C, paragraph 6 to find authorized aircraft configurations.

2. INTERCEPT (INTCP) MODULE

INTCP-1 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce radar trail departure, weapons system checks, collision course geometry (single turn conversion) from beam, front quarter, and head-on set-ups; head-on stern conversions.

SPECIFIC MISSION TASKS: Single-ship takeoff; radar trail departure; weapons system check; tactical formation; intercepts using GCI/AWACS setups; single turn conversion to collision course (beam, front quarter and head-on); front quarter stern conversions; missile attacks in AAM; recovery and landing.

INTCP-2 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce stern conversion from front quarter and beam. Introduce vertical conversion if student proficiency permits.

SPECIFIC MISSION TASKS: Single-ship take-off; radar trail departure; weapons system check; tactical formation; stern conversion (front quarter and beam); vertical conversion (if student proficiency permits); missile attack in AAM; recovery and landing.

INTCP-3 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.3

MISSION OBJECTIVES: Introduce intercepts with vertical conversions. Introduce intercepts against level one or two* evasive target if student proficiency permits.

SPECIFIC MISSION TASKS: Single-ship takeoff; radar trail departure; weapons system check; tactical formation; front quarter and head-on vertical conversion intercepts; missile attack in AAM; intercepts against evasive target (if student proficiency permits); recovery and landing.

*Note: Refer to MCM 55-200 for a definition of levels of evasive action.

3. BASIC FIGHTER MANEUVERS (BFM) MODULE

BFM-1 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.0

MISSION OBJECTIVES: Introduce formation takeoff, offensive fighter maneuvers, cine tracking, and simulated minimum fuel recovery.

SPECIFIC MISSION TASKS: Formation takeoff; weapons system check; tactical formation; fence check; cine tracking; offensive BFM (low yo-yo/acceleration maneuver, high yo-yo, quarter plane), to achieve missile/gun attacks. Simulated minimum fuel recovery (student lead), landing.

NOTE: IP should fly the defensive aircraft to achieve adequate set-up and required training.

BFM-2 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Introduce separations and gun exercises. Practice formation takeoff and offensive fighter maneuvers.

SPECIFIC MISSION TASKS: Formation takeoff; weapons system checks; tactical formation; fence check; cine tracking; offensive fighter maneuvers to achieve missile/gun attacks; separations; gun exercises; landing.

BFM-3 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Introduce lag roll. Practice formation takeoff and offensive fighter maneuvers.

SPECIFIC MISSION TASKS: Formation takeoff; weapons system check; tactical formation; fence check; cine tracking; lag roll; offensive fighter maneuvers to achieve missile/gun attacks; gun exercises; landing.

*BFM-4 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Introduce barrel roll attack and Immelmann attack. Practice formation takeoff and offensive fighter maneuvers.

SPECIFIC MISSION TASKS: Formation takeoff; weapons system check; tactical formation; fence check; cine tracking; barrel roll attack; Immelmann attack; offensive fighter maneuvers to achieve missile/gun attacks; gun exercises; landing.

BFM-5 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Demonstrate proficiency in offensive fighter maneuvers.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; offensive fighter maneuvers; landing.

BFM-6 Acft: F-16A, F-16B
Crew: IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce defensive fighter maneuvers, ranging exercise, AAR, and formation landing.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; ranging exercise; fence check; defensive fighter maneuvers (defensive turn, break turn, reversal, scissors); gun exercise, formation landing.

BFM-7 Acft: F-16A, F-16B
Crew: IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce lead turn and high g roll. Practice defensive fighter maneuvers, gun exercises, AAR, and formation landing.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; AAR; fence check; ranging exercise; lead turn; high g rolls; defensive fighter maneuvers; gun exercises; formation landing.

BFM-8 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce extensions and jinkouts. Practice defensive fighter maneuvers, air-to-air refueling, and formation landing.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; AAR; ranging exercise; extension maneuver; jinkout; defensive fighter maneuvers; gun exercises; formation landing.

BFM-9 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Practice defensive fighter maneuvers.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; defensive fighter maneuvers; landing.

BFM-10 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Demonstrate proficiency in defensive fighter maneuvers.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; defensive fighter maneuvers; landing.

BFM-11 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.0

MISSION OBJECTIVES: Introduce basic fighter maneuvers from a neutral set-up. Practice tactical intercept.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; fence check; tactical intercept; basic fighter maneuvers (neutral set-ups); missile/gun attacks; landing.

BFM-12 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Practice basic fighter maneuvers from a neutral set-up. Practice tactical intercept.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; fence check; tactical intercept; basic fighter maneuvers (neutral set-ups); missile/gun attacks; landing.

BFM-13/14 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.0

MISSION OBJECTIVES: Demonstrate proficiency in BFM from tactical intercepts to visual engagements.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; fence check; tactical intercepts (self set-ups or GCI/AWACS controlled); basic fighter maneuvers; missile/gun attacks; landing.

4. DISSIMILAR/AIR COMBAT MANEUVERS (D/ACM) MODULE

D/ACM-1 Acft: F-16A, F-16A, TGT Time: 1.0
Crew: IP, P

MISSION OBJECTIVES: Introduce two-ship offensive air combat maneuvers.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; ranging exercises on target; fence check; offensive two-ship air combat maneuvers (from visual offensive setups); missile/gun attack; landing.

D/ACM-2 Acft: F-16A, F-16A, TGT Time: 1.0
Crew: IP, P

MISSION OBJECTIVES: Introduce two-ship counteroffensive air combat maneuvers.

SPECIFIC MISSION TASKS: Takeoff; weapons system check; tactical formation; ranging exercise by target; fence check; two-ship defensive air combat maneuvers (from visual defensive setups); missile/gun attack; landing.

5. DART MODULE

DART qualification is required. If qualification is achieved on DART-1, DART-2 will not be flown. Students not qualified in DART after two sorties will not fly X-missions solely for DART qualification. Training units will identify students unqualified in DART to TAC/DOO and the gaining units.

DART-1 Acft: F-16B, F-16B, TOW Time: 1.2
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce live firing of 20mm against an airborne target.

SPECIFIC MISSION TASKS: Takeoff; formation departure; tactical formation; rendezvous with tow aircraft; basic DART firing patterns; instrument recovery; approach; landing.

DART-2 Acft: F-16A, F-16A, F-16A, TOW Time: 1.2
 Crew: IP, P, P

MISSION OBJECTIVES: Practice live firing of 20mm against an airborne target.

SPECIFIC MISSION TASKS: Takeoff; formation departure; tactical formation; rendezvous with tow aircraft; basic DART firing patterns; instrument recovery; approach; landing.

C. AIR-TO-SURFACE PHASE

1. SPECIAL INSTRUCTIONS FOR AIR-TO-SURFACE

- a. The student must accomplish at least two events per sortie to have an effective sortie.
- b. BAM may be flown with air-to-surface training ordnance if a controlled range is available.
- c. Students may accomplish computed high angle strafe as a substitute for computed low angle strafe when range conditions or other restrictions preclude accomplishing low angle strafe.
- d. Combining pilots on numerically different syllabus missions in the same flight is authorized provided mission events are compatible.
- e. All pop-up deliveries will be flown in accordance with TACR 55-16 restrictions and parameters.
- f. If more than one student aircraft per flight is scheduled on a NAV sortie, the low level will be flown single-ship or with enough spacing to preclude interference. Each student should plan and fly his own low level route.
- g. Local wing/squadron weapons sections should supply scenarios for each SAT mission.
- h. A manual weapons delivery should be accomplished at least once in each event on the BAM sortie.
- i. NAV-5, SAT-7 and SAT-8 will be flown to other than home base range(s) if available.
- j. A minimum of 2 SAT sorties (SAT-5, SAT-6, SAT-7, or SAT-8) will be flown with heavyweight ordnance. MK-82's, MK-84's, or other aircraft certified (inert) ordnance may be employed to fulfill heavyweight requirement.
- k. Initial weapons qualification is required in day nuclear and conventional deliveries IAW TACM 51-50.
- l. Flare support (if available) will be used until the F-16 is certified for SUU-25 carriage. If flare/flare support is not available, SAN-1 configuration and mission tasks will be flown as in SAN-2.
- m. Refer to Section I, Part C, paragraph 6 to find authorized aircraft configurations.

- n. Low altitude maneuvering with a drag index over 100 (wing tanks and 2 SUU-20s) will be accomplished on a SA sortie (preferably SA-1) with an IP in the rear cockpit before progressing to SAT.

2. AIR-TO-SURFACE DEFINITIONS

The following definitions apply:

- a. Accurate Weapons Delivery: Where possible, ground or airborne scoring of actual weapons deliveries will be accomplished using the conventional qualification criteria IAW TACM 51-50. In those cases where this criteria cannot be measured, the following film scoring of weapons delivery will apply:
- 1) Switchology
 - Correct delivery mode selected
 - Master Arm-On (Simulate for preplanned dry passes)
 - Valid weapons release/release signal
 - 2) Sight Picture
 - Pipper/TD box dot and bomb fall line, within hit criteria (measured in mils) at release/release signal.
 - 3) Release Parameters
 - Weapon release at or above minimum release altitude
- b. Minimum Release Altitude
- IAW TACM 51-50
- c. Qualification (Hit) Criteria
- IAW TACM 51-50
- d. Formation Integrity/Mutual Support: The formation/individual was able to detect an airborne visual threat and provide adequate threat warning prior to threat aircraft reaching weapons employment parameters.

3. NAVIGATION/NUCLEAR (NAV) MODULE

NAV-1 Acft: F-16B or F-16B, F-16B
Crew: P/IP or P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce visual low level procedures, low altitude awareness training, LATN, radar altitude calibration, INS updates, nuclear weapons deliveries (laydown), airborne radar approach (ARA), low RCR landing techniques.

SPECIFIC MISSION TASKS: Takeoff; visual low level (500 ft AGL/420 kts) (student prepare map); terrain masking and ridge crossing techniques; radar altitude calibration; INS updates (overfly/HUD); nuclear deliveries (RLD, VLD, EMR laydown); radar/nuclear patterns; ARA; simulated low RCR landing.

NAV-2 Acft: F-16B; or F-16B, F-16B
Crew: P/IP or P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce radar low level procedures, INS radar update, EW threat interpretation (if available), and nuclear weapons deliveries (LADD).

SPECIFIC MISSION TASKS: Takeoff; radar low level (1,500 ft AGL/420 kts) (student prepare map); INS update (radar); EW threat interpretation; nuclear deliveries (RLADD, VLADD, EMR LADD); ARA; landing.

NAV-3 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce level and LADD deliveries using an OAP (if not previously utilized). Practice radar low level, computed nuclear LADD and level deliveries for qualification.

SPECIFIC MISSION TASKS: Formation takeoff (lead); LATN with IP chase (1500 ft AGL/420 kts); EW threat recognition; computed radar/visual LADD and level deliveries (RLD, RLADD, VLD, VLADD); formation approach; landing.

NAV-4 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Practice visual LATN and nuclear deliveries for qualification.

SPECIFIC MISSION TASKS: Formation takeoff; LATN with IP chase (500 ft AGL/480 kts); radar and visual nuclear deliveries (RLD, RLADD, VLD, VLADD) for qualification; formation approach; landing.

NAV-5 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Practice visual LATN and nuclear deliveries for qualification (see Special Instructions for Air-to-Surface, i).

SPECIFIC MISSION TASKS: Formation takeoff; LATN with IP chase (500 ft AGL); radar/visual nuclear deliveries (as required for qualification); recovery; landing.

4. SURFACE ATTACK (SA) MODULE

BAM Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 1.5

MISSION OBJECTIVES: Introduce LATF; surface attack computed weapons system checks and symbology, CCIP, DTOS, and manual delivery symbology/techniques. Practice visual low level navigation, low altitude awareness training (hard turns, procedures and techniques for entering/exiting low altitude structure).

SPECIFIC MISSION TASKS: Formation takeoff; LATN/LATF (500 ft); weapons system checks; low altitude awareness training; simulated or actual computed weapons delivery using CCIP, DTOS, and manual deliveries; recovery and landing.

NOTE: This mission may be flown with or without ordnance. If dry, a controlled range need not be scheduled. Priority should be given to low altitude awareness training and computed delivery symbology orientation vice weapons delivery. Lead/wing time should be evenly shared.

SA-1 Acft: F-16A, F-16B, F-16B, F-16B
Crew: IP, P/IP, P/IP, P/IP

Time: 1.4

MISSION OBJECTIVES: Introduce computed weapons delivery (box pattern). Practice LATF.

SPECIFIC MISSION TASKS: Formation takeoff; LATF; range entry; DB (DTOS); LALD (DTOS/CCIP); LAB (CCIP); LAS; recovery; landing.

SA-2 Acft: F-16A, F-16A, F-16A, F-16A
Crew: IP, P, P, P

Time: 1.4

MISSION OBJECTIVES: Practice LATF and computed weapons delivery (box pattern).

SPECIFIC MISSION TASKS: Takeoff; tactical formation (medium altitude); DB; LALD; LAB; LAS; recovery; landing.

SA-3 Acft: F-16A, F-16A, F-16A, F-16A Time: 1.4
Crew: IP, P, P, P

MISSION OBJECTIVES: Practice LATF and computed weapons delivery.

SPECIFIC MISSION TASKS: Takeoff; tactical formation (medium altitude); DB; LALD; LAB; LAS; recovery; landing.

*SA-4/5 Acft: F-16A, F-16A, F-16A, F-16A Time: 1.4
Crew: IP, P, P, P

MISSION OBJECTIVES: Practice LATF; computed weapons delivery.

SPECIFIC MISSION TASKS: Takeoff; tactical formation (medium altitude); DB; LALD; LAB; LAS; recovery; landing.

SA-6 Acft: F-16A, F-16B, F-16B, F-16B Time: 1.4
Crew: IP, P/IP, P/IP, P/IP

MISSION OBJECTIVES: Introduce comm out turns, curvilinear patterns, and HADB. Practice LATF and computed weapons delivery.

SPECIFIC MISSION TASKS: Formation takeoff; LATF; HADB (box pattern); DB, LALD, LAB, and LAS (from curvilinear patterns); recovery; landing.

SA-7 Acft: F-16A, F-16A, F-16A, F-16A Time: 1.4
Crew: IP, P, P, P

MISSION OBJECTIVES: Practice LATF, comm out turns, computed weapons deliveries from curvilinear patterns, and HADB.

SPECIFIC MISSION TASKS: Formation takeoff; tactical formation with comm out turns (medium altitude); HADB (box pattern); DB, LALD, LAB and LAS (from curvilinear patterns); recovery; landing.

SA-8 Acft: F-16A, F-16B, F-16B, F-16B Time: 1.4
Crew: IP, P/IP, P/IP, P/IP

MISSION OBJECTIVES: Introduce pop-up attacks. Practice LATF, comm out turns, HADB, and low angle computed weapons deliveries.

SPECIFIC MISSION TASKS: Formation takeoff; LATF; HADB; LALD, LAB, and LAS from pop-up patterns; recovery; landing.

SA-9 Acft: F-16A, F-16A, F-16A, F-16A Time: 1.4
Crew: IP, P, P, P

MISSION OBJECTIVES: Practice pop-up attacks.

SPECIFIC MISSION TASKS: Takeoff; tactical formation with comm out turns (medium altitude); LALD, LAB, and LAS (pop-ups); HADB and DB optional if required for weapons qualification; recovery; landing.

SA-10/11 Acft: F-16A, F-16A, F-16A, F-16A Time: 1.4
Crew: IP, P, P, P

MISSION OBJECTIVES: Practice pop-up attacks.

SPECIFIC MISSION TASKS: Takeoff; tactical formation with comm out turns (medium altitude); LALD and LAB (pop-ups); LAS curvilinear; HADB and DB optional if required for weapons qualification; recovery; landing.

5. SURFACE ATTACK NIGHT (SAN) MODULE

SAN-1 Acft: F-16B, F-16B
Crew: P/IP, P/IP

Time: 2.4

MISSION OBJECTIVES: Introduce/practice night air refueling, night ingress, night surface attack weapons delivery with flares, and flare delivery.

SPECIFIC MISSION TASKS: Takeoff; night air refueling; radar low level (1,500 ft AGL); simulated nuclear delivery (RLD/dry) on ingress; DB and LALD from box pattern with flares; flare delivery; ILS/GCA approach; landing.

SAN-2 Acft: F-16A, F-16A
Crew: IP, P

Time: 2.4

MISSION OBJECTIVES: Introduce night weapons delivery without flares (with ground illumination). Practice night air refueling (if required/available).

SPECIFIC MISSION TASKS: Takeoff; night air refueling; radar low level; simulated nuclear delivery (RLD/dry); IP chase low level and simulated nuclear delivery); DB and LALD without flares; ILS/GCA approach; landing.

6. SURFACE ATTACK TACTICS (SAT) MODULE

SAT-1 Acft: F-16A, F-16B, F-16B, F-16B Time: 1.5
Crew: IP, P/IP, P/IP, P/IP

MISSION OBJECTIVES: Introduce tactical range procedures, floating wheel, pop-ups on the tactical range, HAS, route recce, and EW threat reaction.

SPECIFIC MISSION TASKS: Formation takeoff; medium altitude tactical formation; fence check; medium altitude ingress; computed weapons deliveries from floating wheel and maximum spacing pop-up attacks; HAS; road recce; EW threat reaction; recovery; landing.

SAT-2 Acft: F-16A, F-16B, F-16B, F-16B Time: 1.5
Crew: IP, P/IP, P/IP, P/IP

MISSION OBJECTIVES: Introduce comm jamming (if available), comm out coordination procedures and minimum spacing split pop-up attacks. Practice route recce and pop-up attacks in a tactical environment.

SPECIFIC MISSION TASKS: Formation takeoff; LATF (comm out) with comm jamming; low altitude ingress; computed weapons deliveries from minimum spacing/split pop-up attacks; HAS; low altitude egress; road recce; EW threat reaction; recovery; landing.

SAT-3 Acft: F-16A, F-16A Time: 1.5
Crew: IP, P

MISSION OBJECTIVES: Introduce TOSS attack. Practice minimum spacing/split pop-up attacks.

SPECIFIC MISSION TASKS: Formation takeoff; LATF (comm out); minimum spacing/split pop-up attacks; TOSS delivery; road recce; tactical recovery; landing.

SAT-4 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Practice LATF (comm out) and pop-up attacks in a tactical environment.

SPECIFIC MISSION TASKS: Takeoff; LATF (comm out); pop-up attacks, tactical recovery; landing.

SAT-5 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce low/medium threat environment with FAC and heavyweight maneuvering.

SPECIFIC MISSION TASKS: Takeoff; medium altitude tactical formation; rendezvous with FAC; identify target and friendly positions (TIC) from FAC description; computed weapons deliveries from box/floating wheel pattern (restricted run-in heading and random attacks); tactical recovery; landing.

SAT-6 Acft: F-16A, F-16A
Crew: IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce high threat environment with FAC. Practice heavyweight maneuvering.

SPECIFIC MISSION TASKS: Takeoff; LATF (comm out); contact/rendezvous with FAC; low altitude ingress; identify target from FAC description; computed weapons deliveries from pop-up attacks; low altitude egress with mutual support; tactical recovery and landing.

SAT-7/8 Acft: F-16A, F-16A, F-16A, F-16A
Crew: IP, P, IP, P

Time: 1.5

MISSION OBJECTIVES: Introduce coordinated attack between elements. Practice LATF with comm jamming, high threat tactics, and heavyweight maneuvering (see Special Instructions for Air-to-Surface, i and j).

SPECIFIC MISSION TASKS: Takeoff; LATF (comm out); low altitude ingress; computed weapons delivery (pop-up/TOSS/level); low altitude egress with mutual support; tactical recovery; landing. (4-ship flight should split with a 2-ship performing a simulated suppression strike and the other 2-ship performing an interdiction strike. IPs must lead and coordinate attacks. Roles should be switched and the scenario repeated).

Attachment II
TX COURSE SYLLABUS

DEPARTMENT OF THE AIR FORCE
Headquarters Tactical Air Command
Langley Air Force Base, Virginia 23665

TAC SYLLABUS
Course F1600TX

USAF TRANSITION TRAINING COURSE

F-16

MARCH 1981

INTRODUCTION

This syllabus prescribes the overall training strategy and approximate amount of instruction required for a student having the entry prerequisites to attain the course goals and graduate. Units tasked to implement this syllabus are responsible for insuring that each student graduated possesses the attitudes, knowledge, skills, and levels of proficiency set forth in the course training standards. Within syllabus and other directive constraints, the amount and level of training devoted to mission elements, events, subjects, or phases should be adjusted, as required, to meet the needs of individual students.

Instructions governing publication and revision of TAC syllabi are contained in TACR 8-1.



W. L. CREECH, General, USAF
Commander

FREDERICK A. CROW, Colonel, USAF
Director of Administration

OPR: TAC/DOOTG

OPDR: OLAG 4444 Ops Sq (F-16 OTD Team, Hill AFB, Utah 84056)

DISTRIBUTION: X

Change Notice:

DATE

CHANGE NO.

AFFECTED PAGES

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DISTRUBUTION: X

<u>PDO</u>	<u>LOCATION</u>	<u>CYS:</u>	<u>TOTAL CYS:</u>
4140	12AF/DOOT, Bergstrom AFB, TX	2	2
4172	27TFW/DO5/F-111D, Cannon AFB, NM	1	1
4183	OLAC, 4444 OPS SQ (OTD) A-10/GLCM	2	2
4231	35TFW/DO5/F-4G, George AFB, CA	1	2
	37TFW/DO5	1	
388	388TFW/DO, HILL AFB, UT	100	130
	OLAG, 4444 OPS SQ (OTD) F-16	30	
4082	479TTW/DO5/AT-38, Holloman AFB, NM	1	1
4011	HQ TAC/DOOTG, Langley AFB, VA	15	26
	TAC/DOOTR	1	
	TAC/DOOS	1	
	TAC/DOVF	1	
	TAC/INAS	1	
	TAC/ACMC	1	
	TAC/XPMQ	1	
	TAC/IGIO	1	
	TAC/DPRO	1	
	TAC/SE	1	
	TAC/HO	1	
	4444 OPS SQ/CC	1	
4127	58TTW/DO5/F-4, Luke AFB, AZ	1	4
	405TTW/DO5/F-15	1	
	OLAK, 4444 OPS SQ (OTD)/TACS/TNG AIDS	2	
4175	56TFW/DO, Macdill AFB, FL	100	100
4249	366TFW/DO/F-111A, Mt Home AFB, ID	1	2
	OLAF, 4444 OPS SQ (OTD)/EF-111A	1	
4268	USAF/TFWC/TA, NELLIS AFB, NV	1	6
	57FWW/DO	1	
	474TFW/DO	2	
	OLAD, 4444 OPS SQ (OTD)/EWTT	2	
4063	9AF/DOOT, Shaw AFB, SC	2	4
	363TRW/DO	2	
	HQ PACAF/DAPD, HICKAM AFB, HI. 96853		10
	PACAF/DOOT	2	
	5AF/DOOT, APO SF 96328	2	
	13AF/DOOT, APO SF 96274	1	
	313AD/DOOT, APO SF 96239	1	
	314AD/DOOT, APO SF 96264	2	
	8TFW/DO, APO SF 96264	2	
	HQ USAFE/DAPD, APO NY 09012		5
	3AF/DOOT, APO NY 09127	1	
	16AF/DOOT, APO NY 09283	1	
	17AF/DOOT, APO NY 09130	1	
	50TFW/DO, APO NY 09109	2	

DISTRIBUTION X (Continued)

<u>PDO</u>	<u>LOCATION</u>	<u>CYS:</u>	<u>TOTAL CYS:</u>
	HQ USAF/PAID, WASH DC 20330	1	8
	USAF/XOOTT	1	
	USAF/XOOTD	1	
	USAF/XOXFT	1	
	USAF/LEYY	1	
	USAF/ACMS	1	
	USAF/ACMI	1	
	NGB/XOO	1	
	3245 TEST WING/TEOFD, Eglin AFB, FL 32544		1
	AFTEC/TEBS, Kirtland AFB, NM 87117		1
	AUL/LSE, Maxwell AFB, AL 36112	1	2
	AU/LD	1	
	AFHRL/OTR, Williams AFB, AZ 85224		2

LIST OF ABBREVIATIONS

AAM	-	Air-to-Air Missile
AAR	-	Air-to-Air Refueling
AC	-	Aircraft
ACM	-	Air Combat Maneuvers
ACT	-	Air Combat Tactics
AHC	-	Advanced Handling Characteristics
ARA	-	Airborne Radar Approach
AS	-	Audic Slide
ASPT	-	Advanced Simulator for Pilot Training
ASRT	-	Air Support Radar Team
ATD	-	Aircrew Training Device
AWACS	-	Airborne Warning and Control System
BAM	-	Basic Attack Maneuvers
BATH	-	Best Available True Heading
BCN	-	Beacon
BFM	-	Basic Fighter Maneuvers
BGO	-	Binge
BVR	-	Beyond Visual Range
CADC	-	Central Air Data Computer
CAS	-	Close Air Support
CCIP	-	Continuously Computed Impact Point
CCRP	-	Continuously Computed Release Point
CFT	-	Cockpit Familiarization Trainer
D/ACM	-	Dissimilar/Air Combat Maneuvers
D/ACT	-	Dissimilar/Air Combat Tactics

LIST OF ABBREVIATIONS (Continued)

DB - Dive Bomb
DGFT - Dogfight Override
DTOS - Dive Toss
EMR - Estimated Manual Release
EPT - Egress Procedures Trainer
FAC - Forward Air Controller
FCNP - Fire Control Navigation Panel
FORM - Formation
GM - Ground Map Mode
HADB - High Altitude Dive Bomb
HAS - High Angle Strafe
HOM - Home Mode
HUD - Head Up Display
INST - Instrument
INTCP - Intercept
JFS - Jet Fuel Starter
LAB - Low Angle Bomb
LADD - Low Altitude Drogue Delivery
LALD - Low Angle Low Drag Bomb
LAS - Low Angle Strafe
LATF - Low Altitude Tactical Formation
LATN - Low Altitude Tactical Navigation
LCOS - Lead Computing Optical Sight
LE - Lecture

LIST OF ABBREVIATIONS (Continued)

MAN - Manual
MFL - Maintenance Fault List
MSLS - Missile Override
NAV - Navigation
OAP - Offset Aim Point
OFP - Operational Flight Program
OFT - Operational Flight Trainer
PLP - Precautionary Landing Pattern
PTT - Part Task Training
REO - Radar Electro/Optical Display
RLADD - Radar Low Altitude Drogue Delivery
SA - Surface Attack
SAN - Surface Attack Night
SAR - Search and Rescue
SAT - Surface Attack Tactics
SCAR - Strike Control and Reconnaissance
SFO - Simulated Flameout Pattern
SM - Seminar
SMS - Stores Management System
SS - Snapshoot Gunsight
ST - Specialized Training
STRF - Strafe
SUU - Suspension Unit Universal
TER - Triple Ejector Rack
TOT - Time on Target
TD - Target Designation

LIST OF ABBREVIATIONS (Continued)

TIC - Troops In Contact
TISL - Target Identification Set, Laser
TR - Transition
VIP - Visual Initial Point
VLADD - Visual Low Altitude Droque Delivery
VTR - Video Tape
WB - Workbook
WS - Workbook Slide

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SECTION I: COURSE ACCOUNTING

A. GENERAL DESCRIPTION

1. COURSE TITLE: USAF Transition Training Course
2. COURSE NUMBER: F1600TX
3. LOCATION: 388 TFW, Hill AFB, UT
56 TFW, MacDill AFB, FL
4. DURATION: 54 training days
 - a. 21 Ground Training Days (includes 5 training days at ASPT; does not include 2 days TDY travel time).
 - b. 33 Flying Training Days
5. COURSE ENTRY PREREQUISITES:
 - a. 300 FP/IP front/left seat hours in tactical fighter/attack aircraft and current within 42 months prior to course entry, or
 - b. 500 FP/IP front/left seat hours in tactical fighter/attack aircraft and current within 5 years prior to course entry, or
 - c. 1000 FP/IP front/left seat hours in tactical fighter/attack aircraft and current within 8 years prior to course entry.
 - d. Waiver authority is TAC/DO.

B. STATUS UPON COMPLETION

Upon satisfactory completion of this course graduates will be awarded AFSC 11150, F-16 pilot. Graduates are qualified to enter Mission Qualification Training as outlined in MCM 51-50, Vol. VIII. Selected graduates may enter course F1600I.

C. COURSE INVENTORY

1. ACADEMICS

NUMBER

HOURS

Conversion Phase

Specialized Training	9	25.5
Workbooks	18	26.0
Workbook/Slides	5	3.0
Audio/Slides	10	5.9
Video Tapes	3	1.3
Seminars	3	4.8
Lectures	7	24.0
Tests	5	10.5

Air-to-Air Phase

Specialized Training	2	4.0
Workbooks	8	11.4
Workbook/Slides	0	0.0
Audio/Slides	1	0.8
Seminars	7	9.6
Lectures	10	19.5
Tests	2	4.0

Air-to-Surface Phase

Specialized Training	4	6.5
Workbooks	6	5.4
Workbook/Slides	0	0.0
Audio/Slides	0	0.0
Seminars	7	13.2
Lectures	10	15.5
Tests	3	8.0

TOTALS

Specialized Training	15	36.0
Workbooks	32	42.8
Workbook/Slides	5	3.0
Audio/Slides	11	6.7
Video Tapes	3	1.3
Seminars	17	27.6
Lectures	27	59.0
Tests	10	22.5

2. AIRCREW TRAINING DEVICES

EPT	3	6.0
CFT	5	7.5
PTT	2	2.0
ASPT	4	4.0
STATIC A/C	<u>2</u>	<u>2.0</u>

TOTAL	16	21.5
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3. FLYING TRAINING

<u>STUDENT MISSION NUMBER</u>	<u>MSN. FLT. TIME</u>	<u>F-16 SUPPORT SORTIES</u>	<u>OTHER SUPPORT SORTIES</u>	<u>ACFT. PER STUDENT F-16A/F-16B</u>	
TR-1	1.3				1.0
TR-2	1.3				1.0
TR-3	1.3				1.0
TR-4	1.4	1.0		2.0	
TR-5	1.4	1.0		2.0	
TR-6	2.0		(TANKER)		1.0
INTCP 1	2.0		(TANKER)		1.0
BFM-1	1.1	1.0		2.0	
BFM-2	1.1	1.0		2.0	
BFM-3	1.0	1.0		2.0	
BFM-4	1.0	1.0		2.0	
D/ACM-1	1.1	1.0	1.0 Tgt	2.0	
D/ACM-2	1.1	1.0	1.0 Tgt	2.0	
DART	1.2		1.0 Tow	0.5	0.5
SA-1	1.5				1.0
SA-2	1.5				1.0
SA-3	1.4	.33		1.33	
SA-4	1.4	.33		1.33	
SAN-1	2.0		1.0 Flareship (TANKER)		1.0
SAN-2	1.4	1.0		2.0	
SAT-1	1.3			0.5	0.5
<u>SAT-2</u>	<u>1.3</u>	<u> </u>	<u> </u>	<u>0.5</u>	<u>0.5</u>
<u>TOTAL</u>	30.1	9.67	4.0	22.17	9.5

22 SORTIES

4. FLYING MODULE SUMMARY

	<u>SORTIES</u>	<u>HOURS</u>
Transition (TR)	6	8.7
Intercept (INTCP)	1	2.0
Basic Fighter Maneuvers (BFM)	4	4.2
Dissimilar/Air Combat Maneuvers (D/ACM)	2	2.2
DART	1	1.2
Surface Attack (SA)	4	5.8
Surface Attack Night (SAN)	2	3.4
Surface Attack Tactics (SAT)	<u>2</u>	<u>2.6</u>
TOTAL	22	30.1

5. WEAPONS/RANGE REQUIREMENTS

SORTIE NR	20MM AMMO	BDU 33	MK 106	MK 82	MK 84	FLARES	RANGE UTILIZATION TYPE	TIME
(INERT)								
INTCP-1							A/A	.8
BFM-1							A/A	.8
BFM-2							A/A	.8
BFM-3							A/A	.8
BFM-4							A/A	.8
D/ACM-1							A/A	.8
D/ACM-2							A/A	.8
DART	100						A/A	.9
SA-1	150	8					Manned	.8
SA-2	150	8	4				Manned	.8
SA-3	150	8	4				Manned	.8
SA-4	150	8	4				Manned	.8
SAN-1		8				8	Manned	.8
SAN-2		8					Manned	.8
SAT-1	150	8		or 6	or 2		Unmanned	.5
SAT-2	150	8		or 6	or 2		Unmanned	.5
TOTAL	1000	56	12	6	2	8		

NOTE: Flares or flare support may be scheduled on either SAN-1 or SAN-2. Heavyweight ordnance will be scheduled on SAT-1 or SAT-2. MK-82s, MK-84s, or other aircraft certified (inert) ordnance may be employed to fulfill the heavyweight requirement.

6. AIRCRAFT CONFIGURATIONS

- a. Aircraft configurations listed in the matrix in this section are acceptable for flying training in this syllabus. TAC/DO is the approval authority for configurations not listed in the matrix.
- b. Assumptions:
- (1) IPs flying the F-16A or the front seat of the F-16B may fly any Dash-One approved configuration.
 - (2) F-16B may be substituted for F-16A on any mission.
 - (3) A TER may be substituted for one SUU-20 on Dash-One approved configurations.
 - (4) A single SUU-20 or one SUU-20 and one MAU-12 pylon (on opposite wings) may be flown in lieu of two SUU-20s on CAT III limiter equipped aircraft or when an IP is aboard the aircraft.
 - (5) Acceptable combined configurations are any combination of loads shown in the following matrix except configuration five and six (wing tanks and centerline tank).
- c. Configuration legend:
- 1 - Clean
 - 2 - One/two AIM-9s on STA 1/9
 - 3 - Centerline pylon
 - 4 - MAU-12s on STA 3 and 7
 - 5 - Centerline tank
 - 6 - Two wing tanks
 - 7 - SUU-20s on STA 3 and 7
 - A - Acceptable
 - D - Desired
 - R - Required

d. Configuration Matrix

<u>Configuration</u>	1	2	3	4	5	6	7
<u>Phase/Sortie</u>							
TR (A)	D	A	A		A		
TR (B)	A	A	A		D		
TR-3	A	A	A	A	D	A	
TR-6	A	A	A	A	A	D	A
INTCP 1	A	D	A	A	D	A	A
BFM/D/ACM (A)	D	D	A		A		
BFM/D/ACM (B)	A	D	A		D		
DART (A)	D	D	A		A		
DART (B)	A	D	A		D		
SA		D	A		A	D	R
SAT		D	A		A	D	R (Note 1)
SAN		D	A		A	D	R

Note 1: SUU-20s except when heavyweight inert ordnance is required.

SECTION II: COURSE MANAGEMENT

A. TRAINING STANDARDS AND GRADING CRITERIA

1. GENERAL

The goal of this course is to provide the graduate with the flying skills and prerequisite knowledge that will enable him to enter course F-1600I, USAF Instructor Training Course, or enter Mission Qualification Training IAW MCM 51-50, Vol VIII.

2. ACADEMIC TRAINING STANDARDS

Academic competence is measured and documented by either end-of-lesson quizzes administered in the Learning Center or larger tests covering a block of instruction and administered in a group session. Lessons for which a quiz must be taken in the Learning Center are indicated by the presence of a "Q" in the lower right corner of the academic symbol on the Course Map. Lessons that do not have a "Q" are tested in a group session and, therefore, do not have an individual quiz in the Learning Center.

After a quiz is completed in the Learning Center it is submitted for scoring. If answers are incorrect, a Learning Center Instructor will provide remediation. When the instructor is satisfied with the student's performance, the student will be certified as having successfully completed the objectives of the lesson.

In some cases, several lessons are grouped together to form a block of instruction and the material is tested in a group session, for example, Test 101 on the engine system. Following group testing, correct answers will be reviewed.

Tests are administered at the end of each block of academics. Section III, paragraph H, lists the lessons comprising each test and the time allotted for each. The minimum passing score for written tests is 85%. Students failing to achieve 85% on written tests or satisfactory on oral or problem solving exercises will be given remediation. A passing grade by reexamination is required prior to module completion. All academic tests will be corrected to 100%. For oral or problem solving exercises the instructor must document satisfactory or unsatisfactory performance.

3. FLYING TRAINING STANDARDS

Flying grades will be recorded on AF Form 1363 (grade-slip). Students must meet a two (2) proficiency level as recorded on the AF Form 1363 prior to entry into the next module of training. The following numerical system is to be used for grading flying tasks:

<u>Proficiency Level</u>	<u>Description of Performance</u>
Unknown	Performance not observed or the element was not performed.
Dangerous	Performance was unsafe. One element on an AF Form 1363 marked "Dangerous" will result in an overall grade of zero (failure).
0	Performance indicates a lack of ability or knowledge.
1	Performance is safe, but indicates limited proficiency. Makes errors of omission or commission.
2	Performance is essentially correct. Recognizes and corrects errors.
3	Performance is correct, efficient, skillful, and without hesitation.
4	Performance reflects an unusually high degree of ability.

The conditions, standards, and criteria by which tasks or events are measured are contained in a Sorties Objective Directory. The Directory includes criteria used in TACR 60-2 and other official directives. It should be used in conjunction with the syllabus. A copy of the Directory will be maintained in each training squadron.

B. GENERAL INSTRUCTIONS

1. WAIVER AUTHORITY

Unless otherwise indicated, HQ TAC/DO is the waiver authority for sorties/events in the syllabus.

2. COMMANDER'S AUTHORITY

The Squadron Commander may authorize deviations in the conduct of training and in the aircraft type to meet special weather and peculiar local conditions consistent with flying safety practices, student progress, and student experience level.

3. TRAINING PROGRESSION

Because this syllabus is designed for students with varying tactical fighter experience and average pilot ability, some students will require more or less training to meet required performance standards.

a. Accelerate

To accommodate the needs of the quick learner whose performance consistently demonstrates early achievement of standards on particular tasks in a sortie, this syllabus incorporates a system for acceleration. All flying sorties prescribed within the modules in this syllabus will be flown. However, if student performance indicates additional practice of a task or tasks is not necessary to reach desired proficiency, the instructor may recommend acceleration of the task(s) in the remarks section of the gradeslip. On future missions calling for additional practice of this particular task the instructor pilot, with the Squadron Commander or Operations Officer approval, may substitute advanced module tasks. The instructor pilot will insure that the flight briefing adequately covers the advanced task(s) to be flown and that all other required tasks for that mission are still accomplished. The instructor pilot will record the advanced tasks accomplished on the gradeslip.

b. X Missions

Additional instructional sorties (e.g. TR-1X) due to a student not attaining the prescribed standard are limited to three per phase and four for the course. Sorties beyond the phase limit must be approved by the Wing Deputy Commander for Operations (information copy to NAF/DO and TAC/DOO). Sorties beyond the course limit must be approved by TAC/DO. An additional

flying instructional sortie is defined as a mission generated to provide training to correct a specific deficiency in an element or elements identified on a previous instructional sortie. These instructional sorties will be briefed and flown so as to concentrate fully on deficient item(s), and will not be considered as evaluation check rides. This is not to be construed as a requirement to provide these additional sorties. The Wing Commander may, at his discretion, initiate elimination proceedings when in his judgement that action is appropriate.

c. Excessive Delays

If a student experiences excessive delays (5 flying training days) between flights in any phase, the last sortie flown will be reaccomplished (this is not an X sortie). Waivers to this rule may be approved by the Wing Deputy Commander for Operations. In no case will flying training precede the related ground training.

4. Missions designated as requiring an F-16A may be flown in an F-16B provided all mission objectives are achieved. Maximum effort should be used to accomplish scheduled sorties in the F-16A due to the increased mission time available. If student proficiency indicates a requirement for an IP in the aircraft on a designated solo mission, an X mission will be flown.
5. Solo students will fly in VMC until successful completion of TR-5 (initial qualification).
6. Missions designated as requiring more than two aircraft may be flown with as few as two aircraft as long as all specific mission tasks can be accomplished.
7. Each student will accomplish his initial formation landing (wing) and night AAR in an F-16B with an IP aboard the aircraft.
8. Wing formation landings will be limited to a maximum of two unless required proficiency is not achieved, in which case additional formation landings are permitted to meet course standards. Formation landings are introduced/practiced in both the Air-to-Air Phase and the Air-to-Surface Phase. Only two should be flown. The total number of formation low approaches is unrestricted.
9. Students may practice simulated flameout patterns in an F-16A without IP chase after successful completion of TR-5 (initial qualification).

10. AAR may be flown anytime after the Conversion Phase and as often as resources allow. A minimum of one day and one night AAR is required.
11. Once an event or task has been accomplished, it may be performed on subsequent missions.
12. To provide additional flying time and experience, students may fly in the rear cockpit (F-16B) as an ungraded observer on missions flown by an IP.
13. Flight Briefings: Immediately preceding each mission, the objectives of the flight and the required procedures and techniques will be briefed. Students will brief the practice checkride (TR-4) and the checkride (TR-5).
14. Proficiency Criteria: With the exception of new tasks introduced in SAR, a minimum grade of 2 as defined in this syllabus must be achieved on each new task within each module prior to successful completion of that module. An overall grade of 2 or higher must be achieved on BFM-4 and SA-4 sorties before the student may progress to the next sortie within the Air-to-Air or Air-to-Surface Phases respectively. In addition, the student must receive an overall grade of 2 or higher on D/ACM-2 in order to successfully complete this module.
15. Missions upon which the student performance meets the acceptable standard, but all syllabus directed maneuvers were not accomplished, may be designated as effective/incomplete if omitted items may be performed on future missions with no degradation to training.

C. COURSE MAP

1. GENERAL

The following Course Map shows the prerequisites for each flying sortie in the syllabus. The relationships between blocks of instruction are indicated by an arrow. Before a block of instruction can be accomplished by a student, he must have successfully completed all prerequisites leading into that block of instruction.

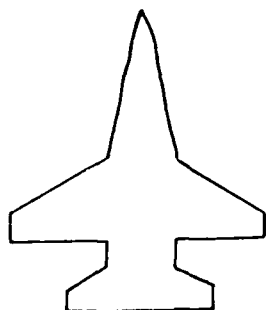
2. SPECIAL INSTRUCTIONS

- a. The Course Map is read from bottom to top.
- b. Prerequisites for each block of instruction are represented by solid arrows leading into that block. Dashed blocks and/or lines indicate a prerequisite which should have been completed in another location on the Course Map.
- c. The purpose of a course map is to provide training managers with the flexibility needed to accomplish the training required. The Management Flow Chart reflects one pathway through the Course Map.
- d. The course is divided into three phases: (1) Conversion; (2) Air-to-Air; and (3) Air-to-Surface. These phases have been further divided into modules (TR, BFM, D/ACM, etc.)
- e. Since the course of instruction relies on self-paced progress, students bear an important responsibility for completing individual programs on time. The Course Map is a guide that depicts a logical sequence for completing all ground and flying training. Students will accomplish individual programs at their own pace but must complete prerequisites prior to those lessons or sorties requiring prerequisites. To use the Course Map, the student starts at the first lesson. After completion, he moves on to the next lesson as indicated by the arrows leading to succeeding programs. When a number of different paths are possible, the student may proceed vertically up one path until reaching a logical break (new subject) or a scheduled event such as a seminar, lecture, hands-on training, or a flight. Then he may go back to the first lesson in another path and proceed upward. If the student desires greater variety he may elect to study material in several parallel paths simultaneously.

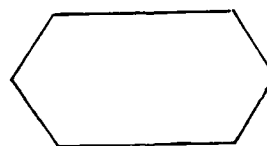
The student moves up the Course Map in this manner while watching for scheduled training events. Periodic seminars or lectures will test his understanding and answer any questions that may remain. Training device sessions enhance understanding of subject matter and provide hands-on practice. Flights demonstrate student understanding and the ability to perform the tasks at the required standards.

- f. The symbols on the following page are used in the Course Map and represent the blocks of instruction as indicated.

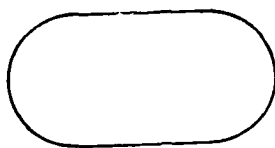
Symbols - Course Map



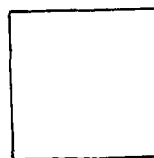
FLIGHT/SORTIE



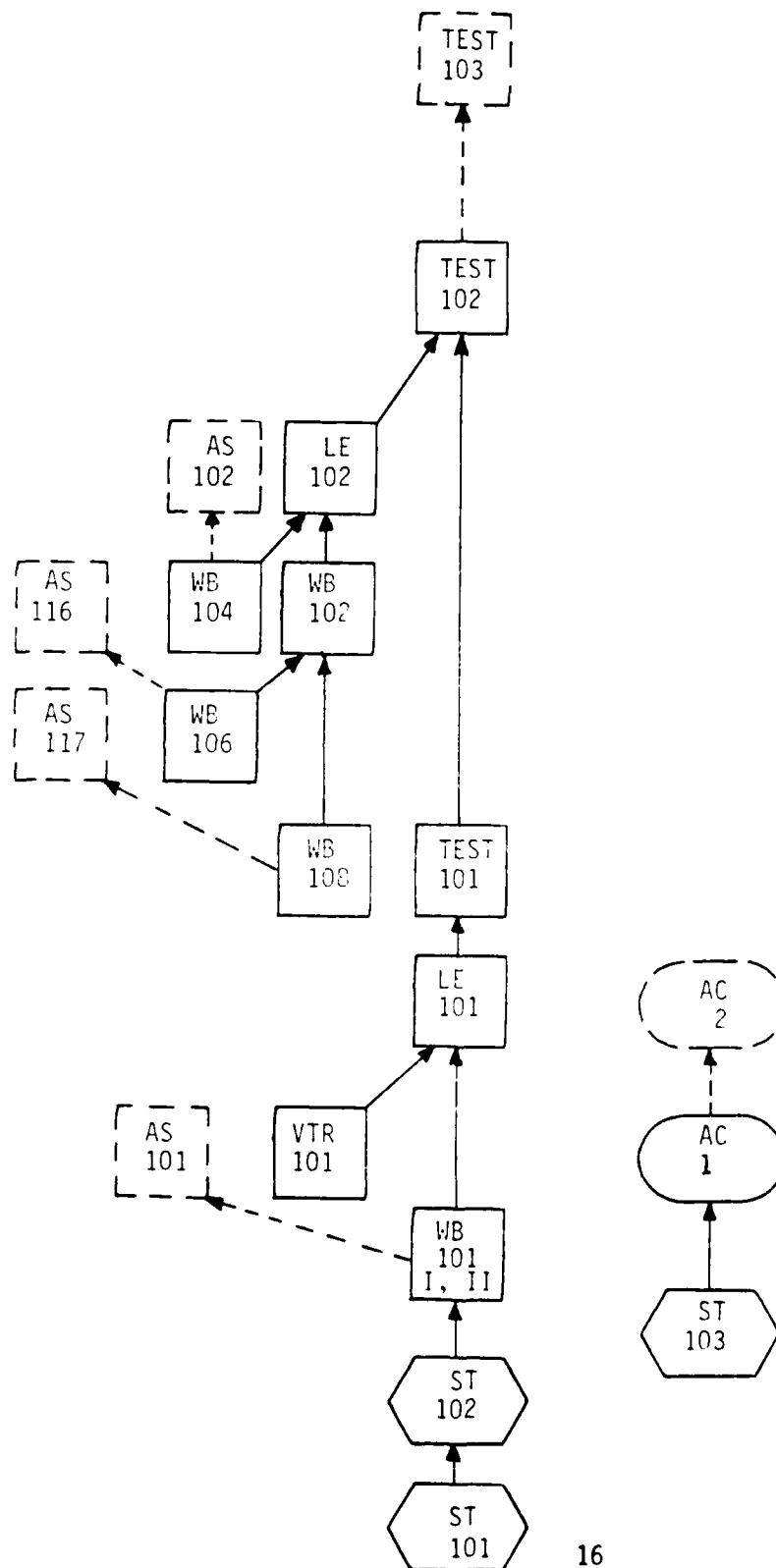
SPECIALIZED TRAINING

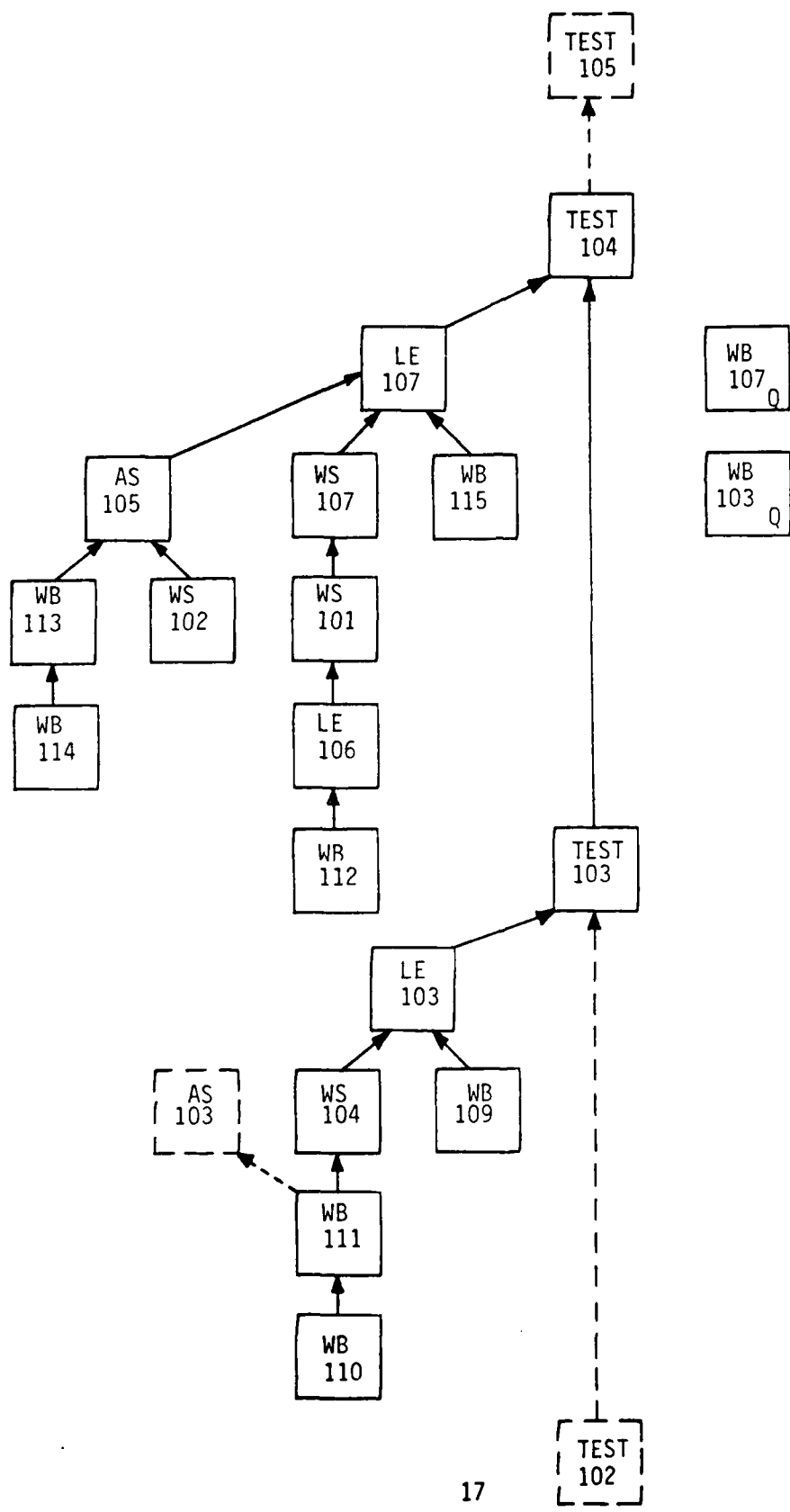


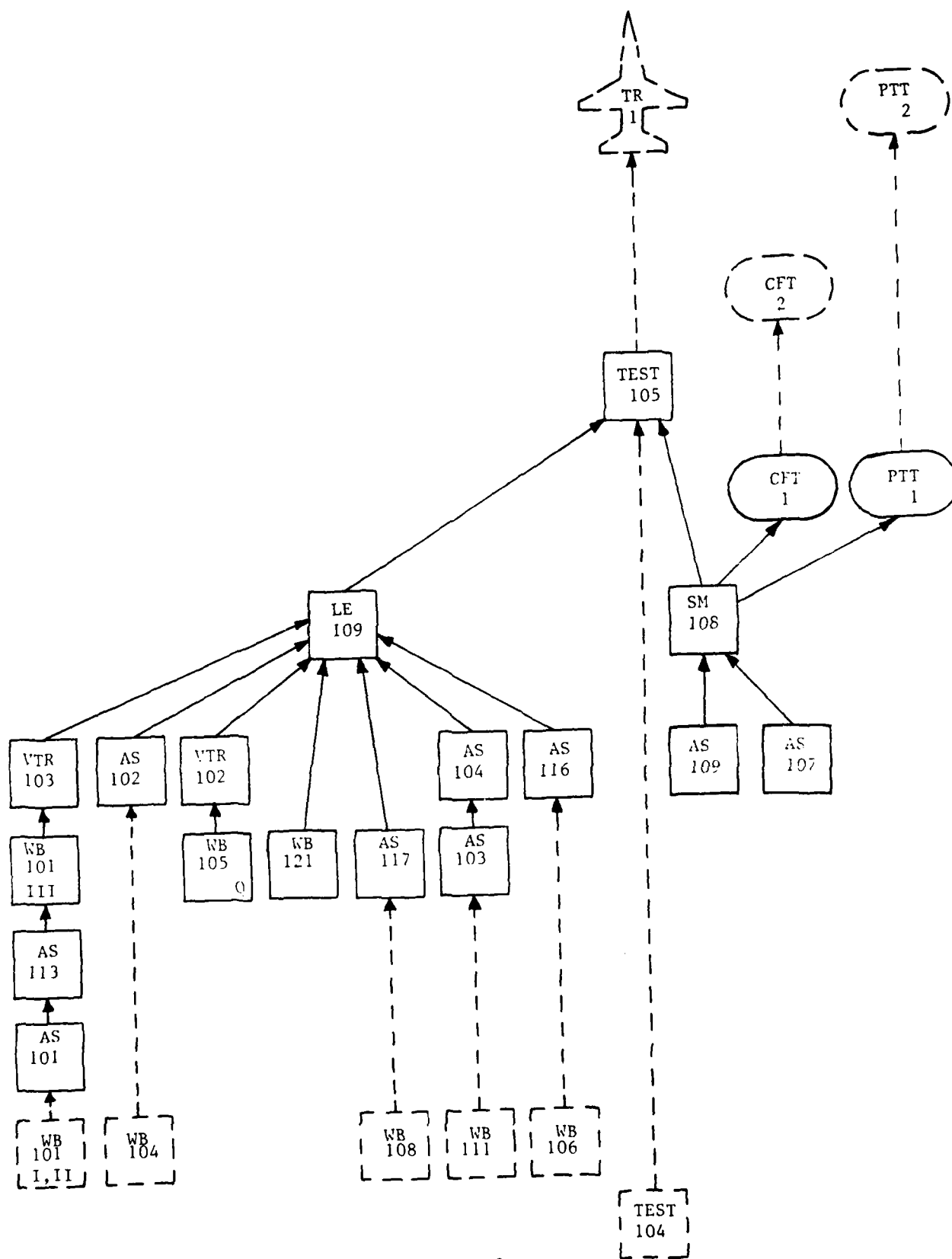
PTT, CFT, ASPT, AC

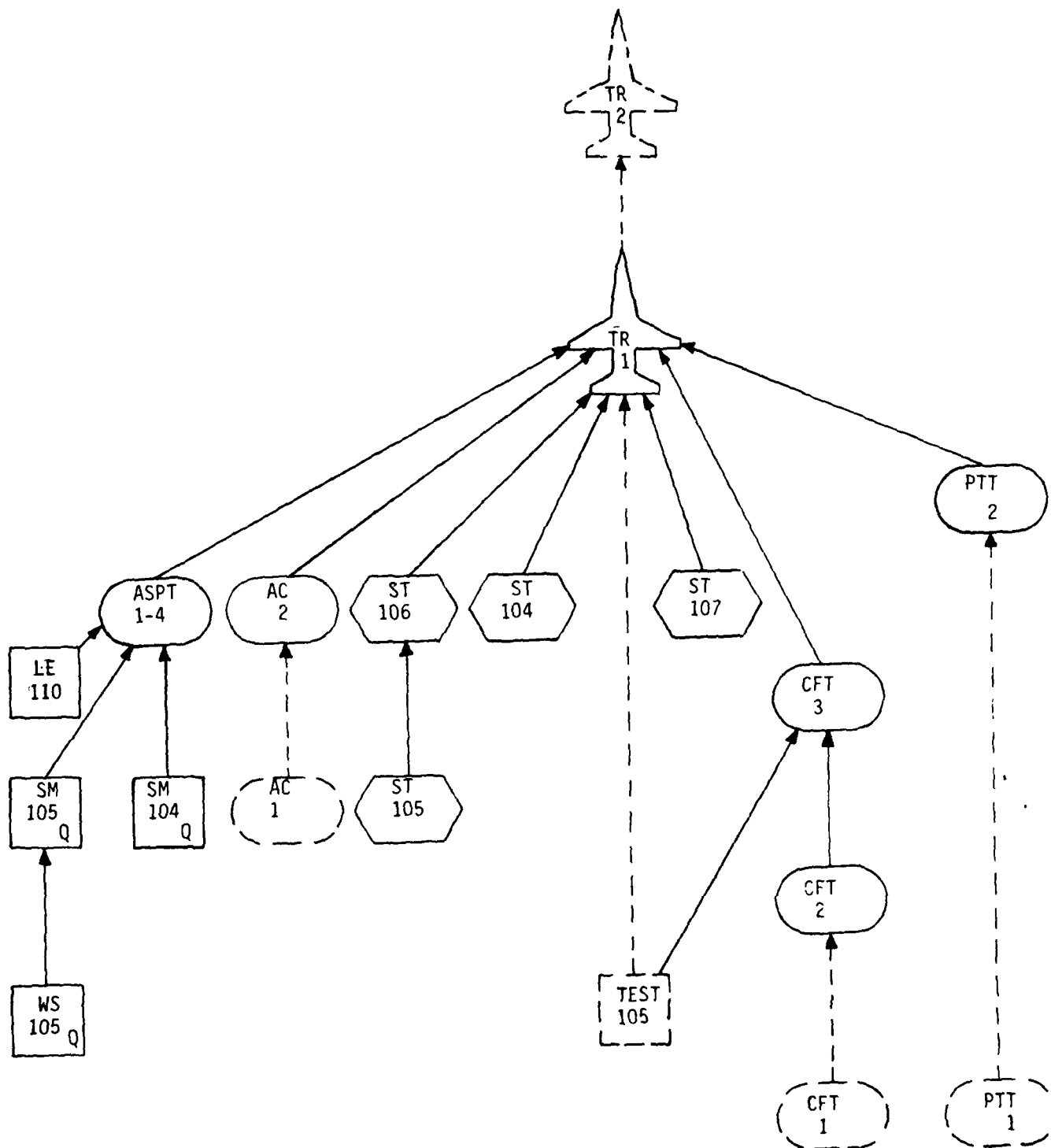


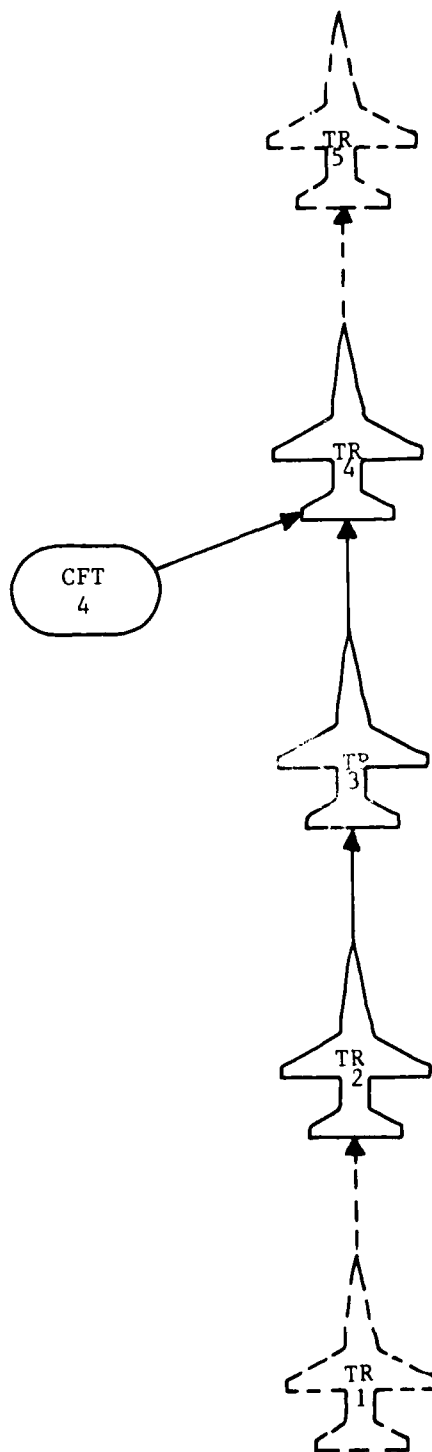
ACADEMICS

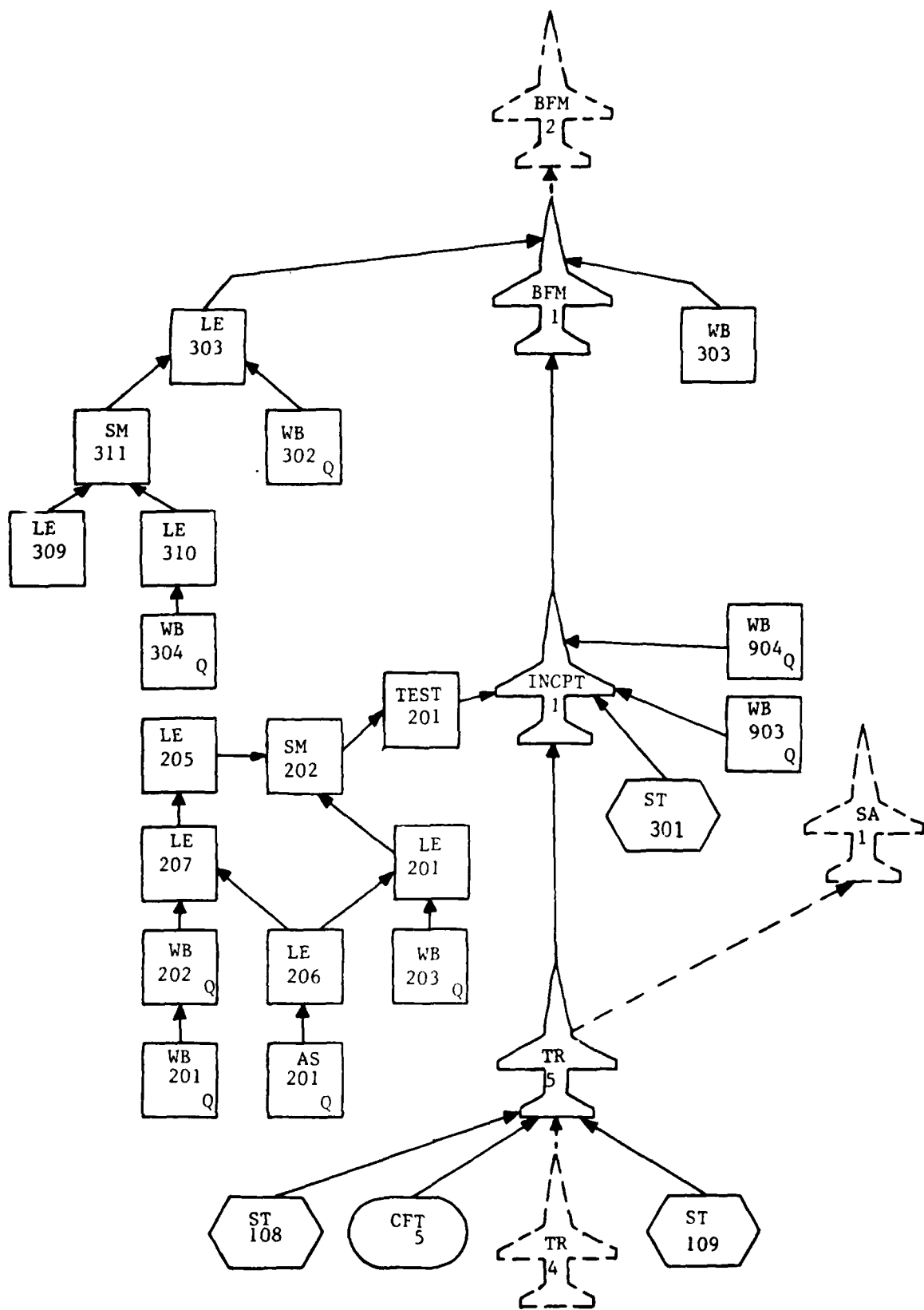


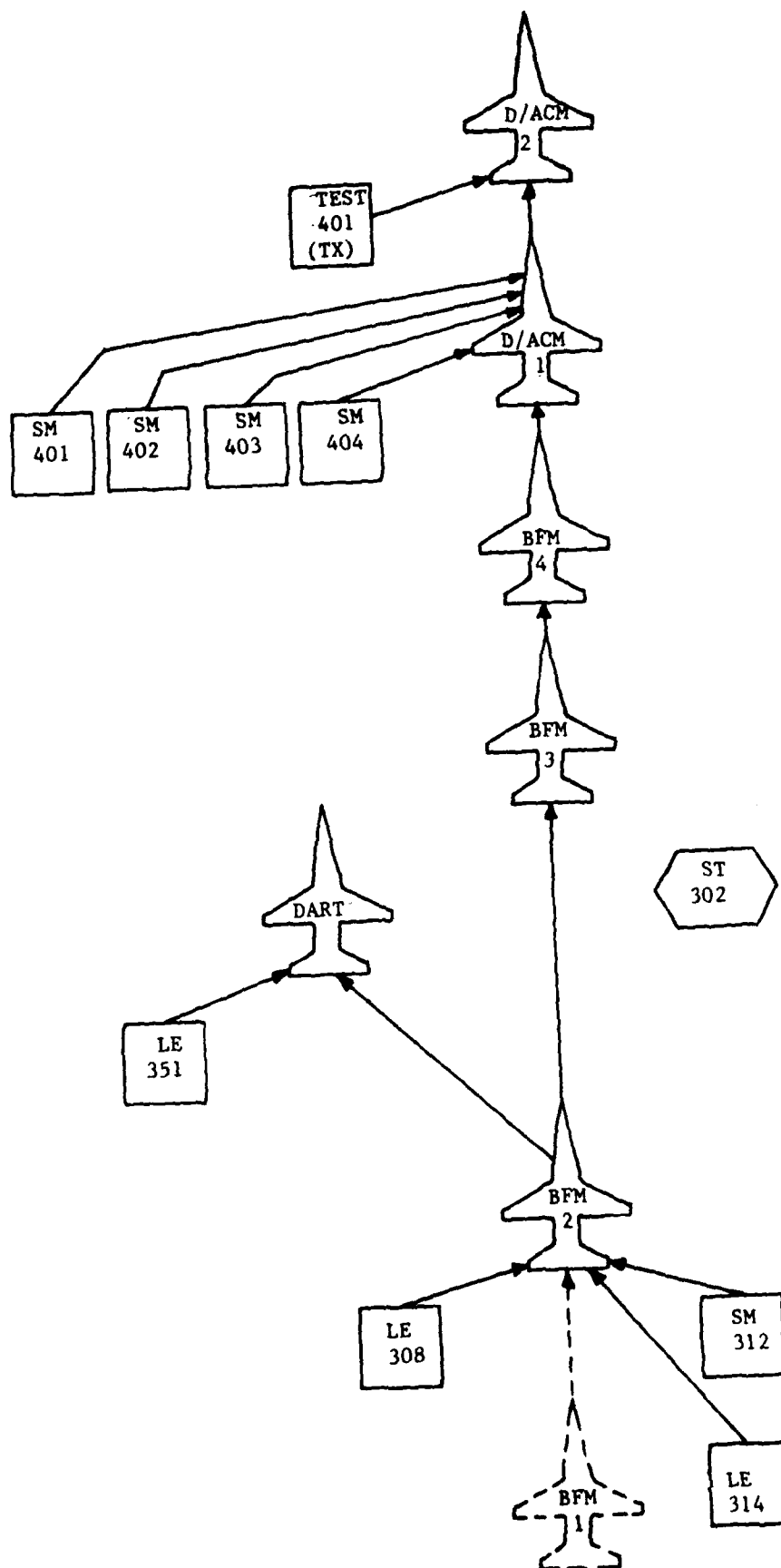


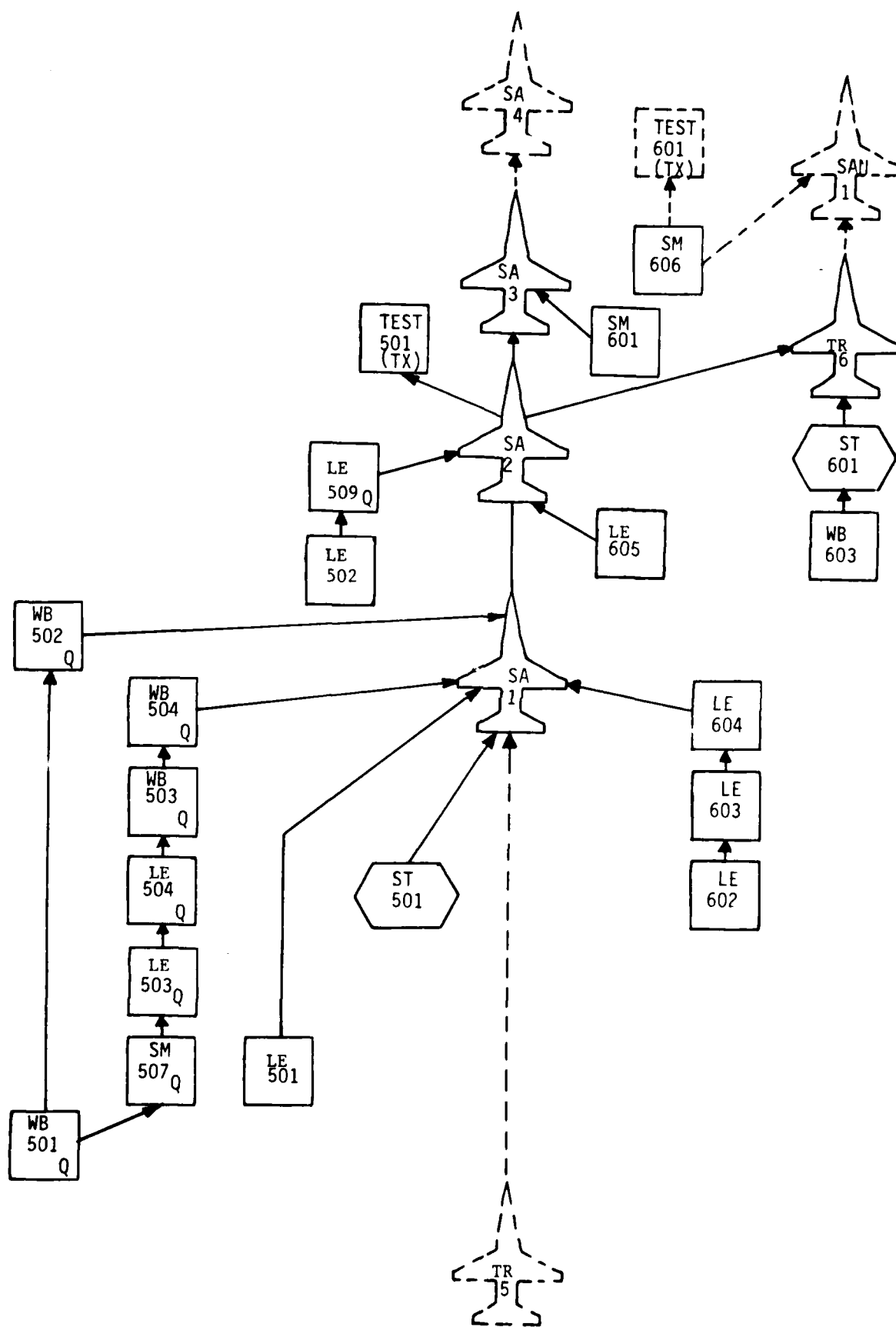


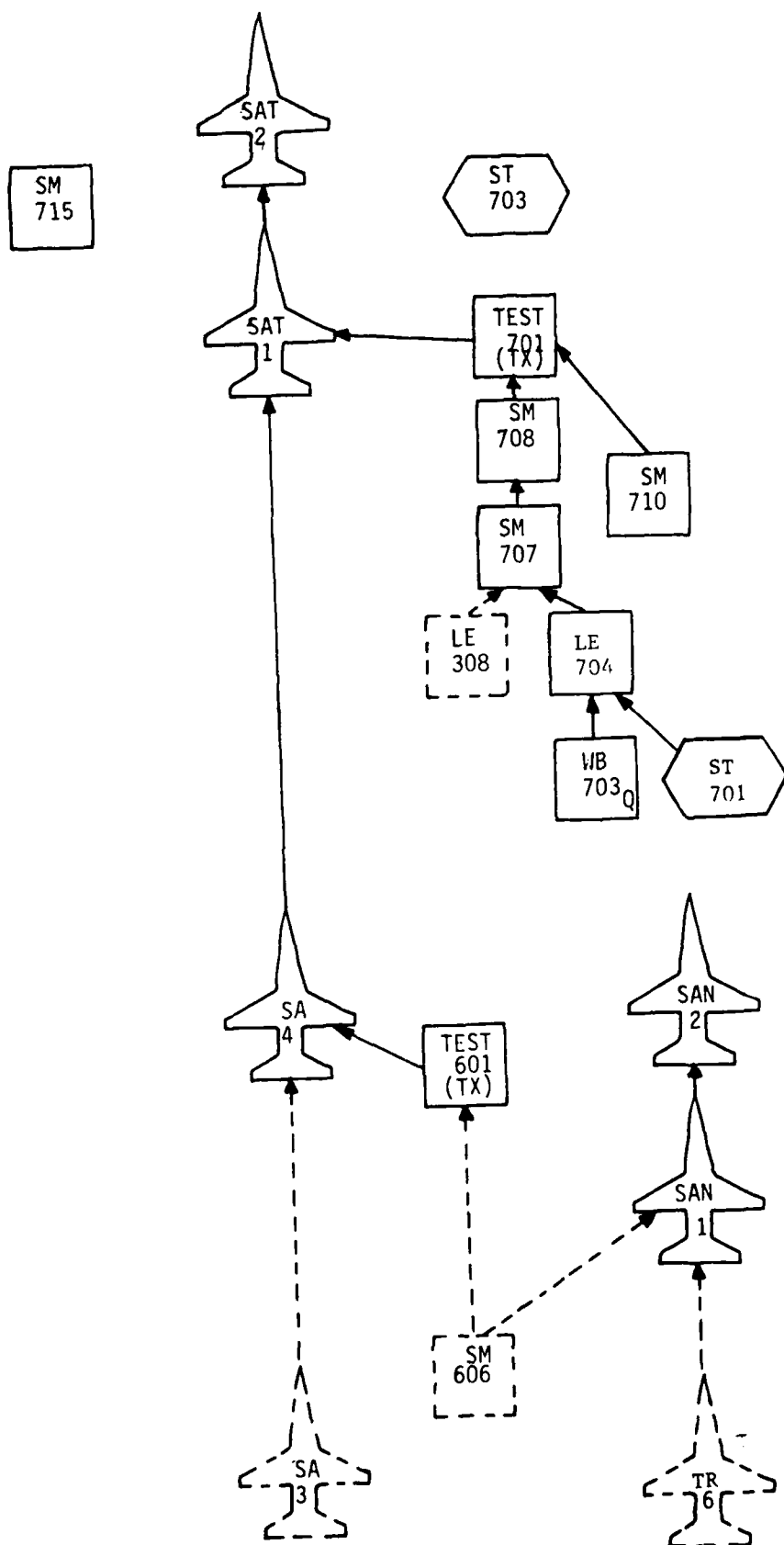












D. MANAGEMENT FLOW CHART

1. GENERAL

The Management Flow Chart is designed to assist course managers in scheduling student activities throughout the course. It should also be used by the student to insure he paces himself efficiently, and accomplishes prerequisite training no later than the required date and in the proper order. The Management Flow Chart does not always show the exact sequence in which training will be accomplished. It does portray the last day on which specific academic and hands-on training should be accomplished to allow flying training to progress normally. The chart was designed to allow a student to fly two sorties during each three day period. Since this particular concept is theoretical in nature, schedulers must insure an individual's flying training does not progress faster than an equivalent of two sorties each three days, OR the scheduler must accelerate academic training in consonance with flying training. The flow chart represents one way to progress through the Course Map. Therefore, other paths may be pursued so long as the student adheres to the prerequisites shown on the Course Map.

2. TRAINING DAYS

Several assumptions were made to determine a "typical" training day on the Management Flow Chart. The assumptions considered were time spent completing academic lessons, attending training device sessions, or flying training sorties. They are listed below:

- a. A typical training day is scheduled to include approximately eight hours of training. The training day may approximate ten hours during early training in preparation for the ASPT and prior to the start of a new flying phase.
- b. Six hours are allotted for each training flight.
- c. Individual academic lesson times from Section III were included to determine the length of each day. Although a conscientious effort was made to allot sufficient time to complete each individual academic lesson and its associated quiz, it is recognized some or all students may require additional study and/or review time. This time is inherently variable and the responsibility rests with the individual student to thoroughly learn the content of each lesson.

- d. Special squadron meetings other than those listed as Specialized Training are not included in the typical training day.
- e. Two flying training sorties are programmed for each three day period in the course.

3. TDY

Due to the necessity of a TDY trip to Williams AFB to accomplish training in the ASPT, the student class is divided initially into two groups, A and B. This division starts on day 11. While one group trains in the ASPT, the other accomplishes CFT and other academic training at the home base. The ASPT is further divided into two travel groups to optimize ASPT utilization and minimize TDY per diem expense and student time away from the home base. After training is complete in the respective training device, group roles are switched. On day 21 the class is reunited and appears as a single unit for the remainder of the Management Flow Chart.

TRAINING DAYS		1	2	3	4	5	6	7	8	9							
I N D I V I D U A L / C L A S S R O O M	WORKBOOK (WB)	101 I	101 II	106 108 102 104	110 111	109	112 103 107	114 113 115 101 III	105 121								
	WORKBOOK/SLIDE (WS)				104		101 107	102	105								
	AUDIO/SLIDE (AS)							105 101 113	107 109								
	VIDEO TAPE (VTR)		101					103	102								
	SEMINAR LECTURE TEST (SM, LE, TE)		LE101	TE101	LE102	TE102 LE103	TE103 LE106		LE107	TE104 SM108 SM104 SM105 LE110							
T R A I N E R S	SPECIALIZED TRNG (ST)	101 102 103															
	ASPT																
	STATIC AIRCRAFT (AC)	1															
	PTT																
P A R T T A S K	CFT																
F L I G H T																	

(A)

TRAINING DAYS		10	11	12	13	14	15	16	17	18	19						
INDIVIDUAL / CLASS ROOM ACADEMIC	WORKBOOK (WB)																
	WORKBOOK/SLIDE (WS)																
	AUDIO/SLIDE (AS)						103 104	102 116 117									
	VIDEO TAPE (VTR)																
	SEMINAR LECTURE TEST (SM, LE, TE)								LE109	TE105							
TRAINERS PART TASK	SPECIALIZED TRNG (ST)						104 105 106				107						
	ASPT	1 2	2 3	4 1	2 3	3 4											
	STATIC AIRCRAFT (AC)										2						
	PTT							1		2							
FLIGHT	CFT							1	2		3						

(B)

TRAINING DAYS		10	11	12	13	14	15	16	17	18	19						
I N D I V I D U A L / C L A S S R O O M A C A D E M I C S	WORKBOOK (WB)																
	WORKBOOK/SLIDE (WS)																
	AUDIO/SLIDE (AS)	103 104	102 116 117														
	VIDEO TAPE (VTR)																
	SEMINAR LECTURE TEST (SM, LE, TE)			LE109	TE105												
P A R T T A S K	SPECIALIZED TRNG (ST)	104 105 106				107											
	ASPT						1 2	2 3	4 1	2 3	3 4						
	STATIC AIRCRAFT (AC)					2											
	PTT		1		2												
F L I G H T	CFT		1	2		3											

TRAINING DAYS		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
INDIVIDUAL / CLASS ROOM	WORKBOOK (WB)					203	201 202	304	302	903 904	303					
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)					201										
	VIDEO TAPE (VTR)															
	SEMINAR LECTURE TEST (SM, LE, TE)						LE206 LE201		LE207	LE205	SM202 TE201	LE309 LE310 SM311 LE303	LE308 SM312 LE314 SM403	SM401 SM402	SM404 LE351	TE401 (TX)
TRAINING PART TARS	SPECIALIZED TRNG (ST)				108			109			301					302
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
FLIGHT	CFT							4	5							
				TR-1		TR-2	TR-3		TR-4	TR-5		INTCP 1	BFM1		BFM2	BFM3

TRAINING DAYS		35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
I N D I V I D U A L / C L A S S R O O M	WORKBOOK (WB)		501 502	503 504						603			703			
	WORKBOOK/SLIDE (WS)															
	AUDIO/SLIDE (AS)															
	VIDEO TAPE (VTR)															
	SEMINAR LECTURE TEST (SM, LE, TE)				SM507 LE503 LE504	LE602 LE603 LE604	LE502 LE509 LE605	LE501			SM606	TE501 (TX) SM601	TE601 (TX)	LE704 SM707	SM708 SM710	TE701 (TX)
P A R T T A S K	SPECIALIZED TRNG (ST)							501		701 703	601					
	ASPT															
	STATIC AIRCRAFT (AC)															
	PTT															
F L I G H T	CFT															
			BFM4	DART		D/ACM 1	D/ACM 2		SA-1	SA-2		TR-6	SAN-1		SAN-2	SA-3

TRAINING DAYS		50	51	52	53	54														
I N D I V I D U A L / C L A S S R O O M	WORKBOOK (WB)																			
	WORKBOOK/SLIDE (WS)																			
	AUDIO/SLIDE (AS)																			
	VIDEO TAPE (VTR)																			
	SEMINAR LECTURE TEST (SM, LE, TE)		SM715																	
P A R T I N E R S T A S S K	SPECIALIZED TRNG (ST)																			
	ASPT																			
	STATIC AIRCRAFT (AC)																			
	PTT																			
F L I G H T	CFT																			
			SA-4	SAT-1	SAT-2															

SECTION III: ACADEMIC TRAINING

A. SPECIAL INSTRUCTIONS FOR ACADEMICS

1. GENERAL

Academic ground training is comprised of specialized training, individual programs, seminars, lectures, quizzes, and tests. Most academic training lessons or instruction are prerequisite to later academic instruction, training device sessions, or flying sorties. The Course Map and Management Flow Chart should be used by students to track their progress through the course and to insure that all individual lessons are completed on or before their scheduled completion dates. Lesson numbers are not sequential and are intended only to identify individual lessons on the Course Map.

2. SPECIALIZED TRAINING (ST)

Specialized training consists of Phase briefings, local area orientation, map preparation, egress training, intelligence briefings, etc. This training will be scheduled by the flying squadron at appropriate times during the course.

3. INDIVIDUAL PROGRAMS

Workbooks, Workbook/Slides, and Audio Slides, and Video Tapes are self-study programs. The student should determine that he has satisfied the prerequisite for a particular lesson prior to studying that lesson. The Learning Center provides study carrels with audio/slide equipment for Workbook/Slides and Audio/Slides. The student should consult the Course Map to determine if the lesson he is studying has a quiz. A "Q" in the lower right corner of the lesson symbol indicates that a lesson has a quiz. The student must then report to the Learning Center and satisfactorily complete the quiz in order to receive credit for lesson completion. Students will not be allowed to participate in training device sessions or flights unless prerequisite lessons have been completed.

An academic instructor, serving as a Learning Center monitor, should be available during normal duty hours to answer subject matter or sequential questions that may arise during self-paced instruction. Clarifications or problem areas should be brought to the attention of the OTD Team in the form of critiques, interviews, or telecon at the earliest convenience.

a. Workbooks (WB)

Workbooks contain objectives, instruction, and practice questions. Some are followed by an end-of-lesson quiz. Workbooks may also direct the student to other sources for study, e.g., Dash-One and Phase Manuals. Questions taken from workbook quizzes will be included in the tests at the end of large blocks of instruction and in the End-of-Module Comprehensive Test.

b. Workbook/Slides (WS)

These programs include slides accompanying the workbook to illustrate the lesson content more clearly. These programs require slide projection for completion.

c. Audio/Slides (AS)

These programs contain narrated material with synchronized visual displays. As with the other individual programs, AS may refer the student to other sources for additional study.

d. Videotapes (VTR)

These programs provide presentations of areas of special interest or emphasis. Like WB, WS, and AS they are self-study and an academic instructor or IP is assumed available to resolve student questions.

4. SEMINARS (SM)

Seminars demand active student participation in the discussion. The academic instructor will serve as the seminar leader and insure that all objectives are covered. Each student must come to the seminar prepared to discuss each objective from the student lesson handout which is provided for each seminar. Seminars may also be used to clarify any questions not answered from previous individual programs. The instructor will tailor the depth and complexity of the seminar material to the expertise of the students.

5. LECTURES (LE)

Lectures are provided at selected points in the academic training program to present new or very complex materials. Students should complete all prerequisite study before attending these lectures. In addition to presenting new material, the instructor may answer questions concerning the contents of self-paced materials (i.e. WB, WS, or AS programs) as well as summarize, or tie together, all the material in that block of instruction.

6. QUIZZES (Q)

Quizzes are provided at the end of some lessons to test the student's knowledge of the objectives for that lesson. The Course Map contains a "Q" in the lower right corner of the symbol for each lesson that has an associated quiz. Often the answers to questions on the quiz may be found only in referenced sources. The quiz will be graded by learning center personnel and must be successfully completed (corrected to 100%) to satisfy the requirements of that lesson.

7. TESTS

Periodic tests will be administered to measure the student's achievement of objectives for major sections of academics. Each test will sample the objectives contained in that section and will draw its questions from the individual sessions. TX Course tests annotated (TX) include material which is different from the material listed for the same numbered test in the B Course. (See pages 55 and 56.)

8. COURSE CRITIQUES

Mandatory course critiques will be administered to the student at approximately mid-course and at course end. Additionally, critiques are available for student or instructor comments whenever they occur. Critiques provide feedback to course managers concerning student's perceptions of lesson validity, instructional clarity, and suggestions for improvements.

B. SPECIALIZED TRAINING (ST)

ST101	Lecture
Squadron Briefing Room	3.0

ADMINISTRATION: Commander's welcome, overview of base, in-processing, publication issue.

ST102	Lecture
Classroom	1.0

COURSE OVERVIEW: Introduction, flow, training aids, documentation, student responsibilities.

ST103	Lecture
Classroom	1.0

AIRCRAFT OVERVIEW: General features and characteristics.

ST104	Lecture/Part-
Life Support Shop and Egress Training Shop	Task Trainer
	6.0 (Total)

PERSONAL EQUIPMENT, LIFE SUPPORT, AND EGRESS TRAINING: Briefing on use of personal equipment; issue and fitting of personal equipment; ejection seat and egress training in the EPT; and hanging harness. Before attending this lecture each student should review applicable portions in Sections I, II, and III of the Dash-One. The initial life support training is approximately 4.0 hours. Monthly refresher training will require approximately one hour each.

ST105	Lecture/VTR
Learning Center	.5

LOCAL AREA ORIENTATION: Airfield information; local flying area; required items for flight; use of transition area airspace; local air traffic control zones; restricted flying areas; VFR traffic patterns and reentry; controlled bailout area; divert/recall procedures; alternate airfields. Not required if previously complied with in another Wing aircraft.

ST106
Squadron Map Room

Workshop
1.0

PREPARATION OF LOCAL FLYING AREA MAP.

ST107
Classroom

Lecture
2.0

CONVERSION PHASE BRIEFING: Before attending this lecture, each student should review the applicable portions of TACR 55-16, Local Chapter 8, AFR 60-15 Formation Signals, Inflight Guide, and the Conversion Phase Manual. The briefing will cover preflight planning and data collection procedures (weather data, takeoff/landing data, other ops information for mission data card, sign-out, and FCIF).

ST108
Classroom

Lecture/Test
8.0

INSTRUMENT SCHOOL

ST109
Classroom

Test
3.0

OPEN/CLOSED BOOK TEST: Administered by STAN/EVAL.

ST301
Classroom

Lecture
1.5

AIR-TO-AIR PHASE BRIEFING: Before attending this lecture each student should review the applicable portions of the Air-to-Air Phase Manual, TACR 55-16, Local Chapter 8, TACR 51-2, and MCM 55-200.

ST302
Classroom

Lecture
2.5

INTELLIGENCE TRAINING: Wing/Intel will conduct intelligence training. Special emphasis will be placed on air-to-air threat recognition, distribution, capabilities, and tactical considerations.

ST501
Classroom

Lecture
1.5

SURFACE ATTACK/SURFACE ATTACK TACTICS PHASE BRIEFING: Before attending this lecture each student should review the Surface Attack Phase Manual, TACR 55-16, Local Chapter 8, TACM 51-50 for hit and foul criteria, and AFR 50-46 and local supplements for conventional and tactical range descriptions and procedures.

ST601
Classroom

Lecture
1.5

NIGHT TRANSITION/SURFACE ATTACK NIGHT (SAN) PHASE BRIEFING: Before attending this lecture each student should review TACR 55-16, Local Chapter 8, AFR 60-15, TACM 51-50 for night delivery restrictions, and AFR 50-46 and local supplements for night range descriptions and procedures.

ST701
Classroom

Lecture
2.5

INTELLIGENCE TRAINING: Wing/Intel will conduct intelligence training. Special emphasis will be placed on surface-to-air threat distribution, capabilities, and tactical considerations.

ST703
Classroom

Lecture
1.0

INTELLIGENCE TRAINING: Escape and evasion training conducted by Wing/Intel.

C. WORKBOOKS (WB)

WB101 I
Learning Center
Engine System.

Workbook
1.0

WB101 II
Learning Center
Engine System.

Workbook
3.0

WB101 III
Learning Center
Engine System Malfunctions.

Workbook
2.0

WB102
Learning Center
EPU System.

Workbook
.6

WB103
Learning Center
Environmental Control and Oxygen Systems.

Workbook
.6

WB104
Learning Center
Fuel Systems.

Workbook
2.0

WB105
Learning Center
Precautionary/Flameout Landing Procedures.

Workbook
.7

WB106	Workbook
Learning Center	1.5
Electrical Power System.	
WB107	Workbook
Learning Center	1.3
Communication/TACAN/ILS/IFF and Interior Lighting Systems.	
WB108	Workbook
Learning Center	1.5
Hydraulic System.	
WB109	Workbook
Learning Center	2.0
Landing Gear, Nosewheel Steering, Wheel Brake, and Arrestment Systems.	
WB110	Workbook
Learning Center	1.3
Air Data and Flight Instruments Systems.	
WB111	Workbook
Learning Center	2.8
Flight Control System.	
WB112	Workbook
Learning Center	1.0
Inertial Navigation and Weapons Delivery System (Conversion).	

WB113
Learning Center

Workbook
1.0

Procedures for FCNP/Avionics Set-Up, and Navigation to
Steerpoints.

WB114
Learning Center

Workbook
.8

Head-Up Display System.

WB115
Learning Center

Workbook
2.2

Radar System.

WB121
Learning Center

Workbook
.7

Takeoff Emergencies.

WB201
Learning Center

Workbook
1.5

Collision Course Geometry.

WB202
Learning Center

Workbook
1.5

Intercept Considerations.

WB203
Learning Center

Workbook
2.0

AIM-9 J/L Set-Up and Switchology.

WB302
Learning Center

Workbook
1.5

Computed Gun Attack Modes: LCOS and SS.

WB303
Learning Center

Workbook
.7

Fence Check.

WB304
Learning Center

Workbook
2.5

Energy Maneuverability and HUD Energy Management Symbolology.

WB501
Learning Center

Workbook
.6

SMS Air-to-Surface Operations.

WB502
Learning Center

Workbook
1.2

Procedures For Stores Jettison and Approach with Asymmetric Stores. Diagnosis of Ordnance Failure to Release.

WB503
Learning Center

Workbook
1.0

Inertial Navigation and Weapons Delivery System (Surface Attack).

WB504
Learning Center

Workbook
1.2

Procedures for Verifying Position Using INS Data and Performing All INS Updates, Radar Altitude Calibration, and Offset Aimpoints.

WB603
Learning Center

Workbook
.7

Special Considerations for Night Ground Operations.

WB703
Learning Center

Workbook
.7

Chaff/Flare Preflight and Set-up.

WB903
Learning Center

Workbook
1.0

Air-to-Air Refueling.

WB904
Learning Center

Workbook
.7

Formation Approach and Landing (Lead and Wing).

D. WORKBOOK/SLIDES (WS)

WS101	Workbook/Slide
Learning Center	.6

Normal Gyrocompass Alignment and Destination Entry.

WS102	Workbook/Slide
Learning Center	.6

Loading and Verification of the SMS.

WS104	Workbook/Slide
Learning Center	.5

FLCS Self-Test.

WS105	Workbook/Slide
Learning Center	.8

Instrument Recoveries in the F-16.

WS107	Workbook/Slide
Learning Center	.5

Stored Heading and Best Available True Heading (BATH)
Alignments.

E. AUDIO/SLIDE PROGRAMS (AS)

AS101
Learning Center

Audio/Slide
.5

Engine System Malfunctions.

AS102
Learning Center

Audio/Slide
.5

Fuel System Malfunctions.

AS103
Learning Center

Audio/Slide
.7

ADC, LE Flap, Flight Control System Caution Lights.

AS104
Learning Center

Audio/Slide
.7

Dual Flight Control Warning Light.

AS105
Learning Center

Audio/Slide
.9

Cruise Energy Management.

AS107
Learning Center

Audio/Slide
.6

Engine Start Procedures.

AS109
Learning Center

Audio/Slide
.5

Exterior Aircraft Inspection Checklist Procedures.

AS113
Learning Center

Audio/Slide
.5

Engine Fire/Overheat.

AS116
Learning Center

Audio/Slide
.5

Electrical System Malfunction Identification.

AS117
Learning Center

Audio/Slide
.5

Malfunctions Indicated by the Hydraulic/Oil Pressure Warning
Light.

AS201
Learning Center

Audio/Slide
.8

Air-to-Air Radar Search and Lock-On.

F. VIDEOTAPES (VTR)

VTR101
Classroom

Videotape
0.2

High Performance Breed.

VTR102
Classroom

Videotape
0.8

Flameout Landing.

VTR103
Classroom

Videotape
0.3

Air Starts.

G. SEMINAR/LECTURE (SM/LE)

LE101	Lecture
Classroom	4.0

Engine System.

LE102	Lecture
Classroom	4.0

Hydraulic, Electric, EPU, and Fuel Systems.

LE103	Lecture
Classroom	4.0

Flight Control System.

SM104	Seminar
Classroom	1.8

Aircraft Handling, Flight Characteristics, and Conversion Maneuvers.

SM105	Seminar
Classroom	2.0

Procedures for Patterns and Landings in the F-16.

LE106	Lecture
Classroom	2.0

Avionics Systems Introduction.

LE107	Lecture
Classroom	4.0

Avionics System.

SM108
Classroom

Seminar
1.0

After Engine Start through Before Takeoff Procedures.

LE109
Classroom

Lecture
4.0

Emergency Procedures Review.

LE110
Classroom

Lecture
2.0

Basic Air-to-Ground Symbology.

LE201
Classroom

Lecture
2.0

AIM-9 Characteristics and Employment.

SM202
Classroom

Seminar
1.5

Varieties of Single-Ship Tactical Intercepts.

LE205
Classroom

Lecture
4.0

GCI Capabilities, Limitations, Procedures, and Employment Considerations. Sufficient time is programmed for an orientation visit to a GCI facility, if available.

LE206
Classroom

Lecture
2.0

F-16 Radar Air-to-Air Capabilities and Applications.

LE207
Classroom

Lecture
2.5

Intercept Geometry.

LE303
Classroom

Lecture
1.5

Principles and Techniques for Making a Gun Attack in the F-16.

LE308
Classroom

Workbook/Lecture
2.2

ALR-69: Introduction, Turn-On BIT, Symbology, and Malfunctions.

LE309
Classroom

Lecture
2.0

F-16 Flight Characteristics as Applied to Air-to-Air.

LE310
Classroom

Lecture
1.0

F-16 Energy Maneuverability and Comparisons with Adversary Aircraft.

SM311
Classroom

Seminar
1.0

BFM: Offensive Maneuvers Review and F-16 Applications.

SM312
Classroom

Seminar
2.0

BFM: Defensive Maneuvers Review and F-16 Applications.

LE314
Classroom

Lecture
1.0

Neutral BFM Considerations.

LE351
Classroom

Lecture
1.3

DART Firing Patterns and Rules of Engagement.

SM401
Classroom

Seminar
1.2

Procedures and Considerations for Sequential Attack and
Shooter Cover.

SM402
Classroom

Seminar
1.2

Procedures and Considerations for Free and Engaged Fighters
in Two-Ship Counteroffensive Combat.

SM403
Classroom

Seminar
1.2

Air-to-Air Attack Feasibility and Weapon Selection.

SM404
Classroom

Seminar
1.5

Two-Ship Formation Intercept.

LE501
Classroom

Lecture
1.5

Considerations for Planning a Nuclear Mission and Principles,
Procedures, and Considerations of Enroute Mission Planning
Including Selection of Enroute Navigation Modes, Aids to
Navigation, Altitude/Airspeed Profiles, and Rules of Thumb
for Adjusting Profiles to Make a TOT.

LE502
Classroom

Lecture
1.0

Nuclear Weapons Familiarization.

LE503
Classroom

Lecture
1.5

Principles, Procedures, and Applications of Level/Laydown
and LADD Attack.

LE504
Classroom

Lecture
1.5

Procedures for using VIP and VRP modes.

SM507
Classroom

Seminar
2.0

Procedures for Navigation Using Ground Mapping Radar
Including Radar Interpretation and Effects of Radar Jamming.

LE509
Classroom

Lecture
1.5

SMS Set-up for Nuclear Training Ordnance.

SM601
Classroom

Seminar
1.5

Principles and Procedures for Low Altitude Tactical Formations Including Comm Out Procedures.

LE602
Classroom

Lecture
1.5

CCIP and DTOS Delivery of Free Fall Munitions.

LE603
Classroom

Lecture
.5

Principles and Procedures for Strafing Using CCIP and Manual Modes.

LE604
Classroom

Lecture
2.5

Computed Deliveries Error Analysis.

LE605
Classroom

Lecture
2.0

Rules and Procedures for Pop-Up Attacks.

SM606
Classroom

Seminar
1.7

Considerations for Night Surface Attack with and without Flares.

LE704
Classroom

Lecture
2.0

Penetration Aids: ALQ-119ECM pod, and ALR-69.

SM707
Classroom

Seminar
2.0

Attack Planning Considerations.

SM708
Classroom

Seminar
2.0

High Threat Interdiction Attack Profiles.

SM710
Classroom

Seminar
2.0

Principles and Procedures for Close Air Support (CAS).

SMV715
Classroom

Seminar
2.0

Special Weapons and Systems: Maverick, Hobo, TISL/Pave
Penny, and Beacon.

H. TESTS

TEST 101	Test and Review
Classroom	2.5

Engine Test. Testable Material: WB101 I, II; VTR 101; LE101.

TEST 102 Test and Review
Classroom 2.0

Hydraulic, Electric, EPU, Fuel Test. Testable Material:
WB102, WB104, WB106, WB108, LE102.

TEST 103 Test and Review
Classroom 2.0

Flight Control System, Landing Gear, Hook, Brakes, Nosewheel
Steering Test. Testable Material: WB109, WB110, WB111,
WS104, LE103.

TEST 104 Test and Review
Classroom 2.0

Avionics Test. Testable Material: WB112, WB113, WB114, WB115, WS101, WS102, WS107, AS105, LE106, LE107.

TEST 105 Test and Review
Classroom 2.0

Emergency Procedures Test. Testable Material: WB101 III, WB105, WB121, AS101, AS102, AS103, AS104, AS113, AS116, AS117, VTR102, VTR103, LE109.

TEST 201	Test and Review
Classroom	2.0

Intercept Test. Testable Material: WB201, WB202, WB203, AS201, LE201, SM202, LE205, LE206, LE207.

TEST 401 (TX)
Classroom

Test and Review
2.0

Air-to-Air Test. Testable Material: WB302, WB303, WB304, LE303, LE308, LE309, LE310, SM311, SM312, LE314, LE351, SM401, SM402, SM403, SM404.

TEST 501 (TX)
Classroom

Test and Review
2.0

NAV/NUC Test. Testable Material: WB501, WB502, WB503, WB504, LE501, LE502, LE503, LE504, SM507, LE509.

TEST 601 (TX)
Classroom

Test and Review
2.0

SA/SAN Test. Testable Material: WB603, SM601, LE602, LE603, LE604, LE605, SM606.

TEST 701 (TX)
Classroom

Graded Exercise
4.0

Practical Exercise: Planning a Day Interdiction Mission. This Exercise Integrates and Tests Knowledge of the Following Lessons: WB703, LE704, SM707, SM708, SM710.

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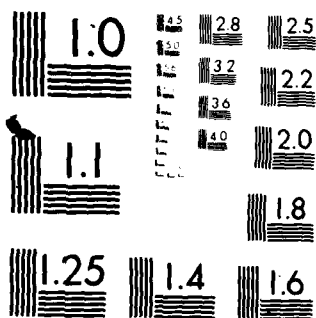
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SECTION IV: AIRCREW TRAINING DEVICE (ATD) SESSIONS

A. SPECIAL INSTRUCTIONS

1. The ATD sessions describe a preferred method of accomplishing the required training. However, training may be accomplished by other means at Squadron Commander discretion, provided the training is not compromised. The intent is to provide the flexibility to accomplish training in the event that a particular device is not available.
2. The following is a suggested method to accomplish avionics training (PTT sessions):
 - a. Practice FCNP and SMS tasks in static aircraft with external power and cooling air applied.
 - b. Additional time to review HUD film/video tape of mission profiles.
 - c. Practice FCNP and SMS tasks on available maintenance trainers.
3. If ASPT training is not available, the following adjustments may be anticipated:
 - a. Recommend two rear seat orientation flights be accomplished prior to TR-1. Any flight profile is acceptable.
 - b. Additional time to review HUD film/video tape of mission profiles.
 - c. Practice FCNP and SMS tasks on available maintenance trainers.
4. PTT and ASPT specific mission tasks may be modified at IP discretion to support individual student needs and account for varying equipment capabilities.
5. Due to the time-intensive nature of ASPT training, two instructors are required when student load dictates back-to-back missions. This allows one instructor to brief/debrief while the other instructor conducts a mission. As a guide, one instructor should conduct a maximum of four sorties per day.
6. The required student performance for ASPT Surface Attack tasks is a grade of 1. Required performance for ASPT Conversion tasks is a grade of 2.

B. EGRESS PROCEDURES TRAINER (EPT)

ST-104

MISSION DESCRIPTION: Preflight ejection seat; cockpit ingress and strap-in; controlled ejection; canopy failure to separate; immediate ejection; emergency ground egress.

NOTE: This is the training device session outlined in ST-104 as initial (4 hours) and refresher (1.0 hour) ejection seat/egress training.

C. COCKPIT FAMILIARIZATION TRAINER (CFT)

CFT-1

1:1 Ratio
1.5 Hours

MISSION OBJECTIVES: Introduce general cockpit layout. Introduce cockpit interior inspection checklist; prior to engine start checks; starting engine; engine shutdown checks.

SPECIFIC MISSION TASKS: (An introduction to systems operation and associated switches.) Interior inspection; prior to engine start checks; starting engine; engine shutdown checks.

CFT-2

1:1 Ratio
1.5 Hour

MISSION OBJECTIVES: Practice interior inspections and prior to engine start checks. Practice engine starting procedures. Introduce JFS and engine emergency procedures, pretakeoff procedures and after landing checks.

SPECIFIC MISSION TASKS: Practice interior inspection; prior to engine start checks; starting engines; JFS and engine emergency procedures; before taxi; taxi; before takeoff; after clearing runway; engine shutdown.

CFT-3

1:1 Ratio
1.5 Hours

MISSION OBJECTIVES: Introduce situational emergency training to the student. Introduce the cockpit blindfold check of all switches required in the checklist for all normal and emergency procedures. Practice emergency procedures.

SPECIFIC MISSION TASKS: Student practices emergency procedures in realistic situations established by the IP; reviews all checklist procedures; performs blindfold cockpit check.

CFT-4

0:1 Ratio
1.5 Hours

MISSION OBJECTIVES: Practice all procedures.

SPECIFIC MISSION TASKS: Same as CFT-3.

CFT-5

1:1 Ratio
1.5 Hours

MISSION OBJECTIVES: Demonstrate proficiency in blindfold cockpit checks, normal and emergency procedures to a STAN/EVAL Flight Examiner (SEFE).

SPECIFIC MISSION: Administered by a SEFE for initial qualification requirements IAW TACR 60-2.

D. STATIC AIRCRAFT (AC)

AC-1
Flightline

1:4 Ratio
1.0 Hour

AIRCRAFT FAMILIARIZATION: Major features of the aircraft, cockpit entry/exit, cockpit orientation.

AC-2
Flightline

0:1 Ratio
1.0 Hour

AIRCRAFT PROCEDURES PRACTICE: Preflight checks; exterior inspection; before entering cockpit; strap-in; interior inspection; prior to engine start; after clearing runway; engine shutdown; before leaving airplane; before leaving area. (NOTE: This practice can be accomplished by the student as often as desired/necessary. A supervised preflight will be accomplished on TR-1.)

E. PART TASK TRAINING (PTT)

PTT-1

1.0 Hour

MISSION OBJECTIVES: FCNP programming: Maintenance Fault List reading and clearing, INS Alignment, D-value altitude calibration, cruise energy management; SCP programming: Verify, load, and air-to-air weapons preselection; HUD symbology: cruise display, cruise energy management displays, Bingo and HOM fuel warnings, INS steering, TD Box, and HUD ILS symbology.

SPECIFIC MISSION TASKS: Accomplish before engine start FCNP set-up, perform normal INS alignment, verify and re-enter present position, read and clear MFL, monitor alignment status, verify correct present position elevation, perform D-value altitude calibration, enter Bingo fuel, enter and verify destination coordinates and elevations in a typical mission profile, select NAV prior to taxi, select HOM steerpoint. Read SCP inventory; clear CONV rotary; load 510 rounds 20MM, AIM-9J on station 1, and AIM-9L on station 9; preselect LCOS under GUN mode, AIM-9L under Missile Override mode, AIM-9J under Dogfight mode, and AIM-9L under AAM mode;

exercise missile step button on side-stick; perform AIM-9L cooling. Takeoff; observe HUD cruise display and declutter options; follow INS steering to a destination and observe TD Box; select RNG, EDR, and HOM modes and observe indications; observe BGO and HOM fuel warning indications; observe ILS straight-in approach. After landing, read MFL, INS present position coordinates, INS velocity, and MISC data. Shutdown INS, FCC, and FCNP IAW checklist.

PTT-2

1.0 Hour

MISSION OBJECTIVES: Review PTT-1 as required. Introduce Stored Heading INS alignment, air-to-air weapons system checks to include switchology and symbology.

SPECIFIC MISSION TASKS: Practice ground procedures, perform Stored Heading INS alignment; read SCP inventory; clear CONV rotary; load 510 rounds 20MM, AIM-9J on station 1, and AIM-9L on station 9; preselect LCOS under GUN mode, AIM-9L under Missile Override mode, AIM-9J under Dogfight mode, and AIM-9L under AAM mode. Takeoff, perform weapons system check on target aircraft. Observe ILS straight-in approach. Review after landing procedures.

F. ADVANCED SIMULATOR FOR PILOT TRAINING (ASPT)

ASPT-1

1:1 Ratio
1.0 Hour

MISSION OBJECTIVES: Introduction to takeoff, aircraft handling characteristics, aerobatics, instrument flying, SFO pattern, VFR patterns, and closed pattern.

SPECIFIC MISSION TASKS: Mil takeoff, VFR climbout, aircraft handling demonstrations (AOA limiter, G limiter, 30° climb, G command, AB at slow/high speed, transonic, slow flight), vertical confidence maneuver, aerobatics, basic instrument exercises (wingover, roll, loop), unusual attitude recoveries, ILS straight-in approach in clear weather, SFO, closed pattern, VFR overhead pattern(s). NOTE: Touch and go landings are optional on all approaches/patterns.

ASPT-2

1:1 Ratio
1.0 Hour

MISSION OBJECTIVES: Introduce automatic weapon deliveries using CCIP mode. Practice takeoff, unusual attitude recoveries, ILS approach, SFO, and VFR patterns.

SPECIFIC MISSION TASKS: AB takeoff; basic instrument exercises (wingover, roll, loop); unusual attitude recoveries; gunnery range orientation; CCIP deliveries in DB, LALD, LAB; LAS; ILS straight-in approach to 700/2; clear weather SFO; and VFR patterns.

ASPT-3

1:1 Ratio
1.0 Hour

MISSION OBJECTIVES: Introduce automatic weapon deliveries using DTOS mode. Practice CCIP deliveries, takeoff, ILS approach, SFO, and VFR patterns.

SPECIFIC MISSION TASKS: AB takeoff; DTOS and CCIP deliveries in DB, LALD, LAB; LAS; TACAN/ILS holding, penetration, and approach to 500/1 1/2; clear weather SFO; and VFR patterns.

ASPT-4

1:1 Ratio
1.0 Hour

MISSION OBJECTIVES: Introduce pop-up attacks on the controlled range. Introduce engine stall/stagnation/airstart procedures.

SPECIFIC MISSION TASKS: AB takeoff; pop-up deliveries in DB, LALD, LAB; LAS; engine stall/stagnation/airstart training (approximately 30 minutes).

SECTION V: FLYING TRAINING

A. CONVERSION PHASE

1. SPECIAL INSTRUCTIONS FOR CONVERSION PHASE

- a. TR-4 is a practice for the TR-5 check ride. TR-4 and TR-5 will be briefed by the student.
- b. Until the Operational Flight Trainer (OFT) is available the first X ride in Conversion will not be counted against the total number of X rides allowed in the phase.
- c. Upgrade pilot should perform at least one TACAN, one ILS, and one PAR/ASR during TR.

2. MISSION DESCRIPTIONS

TR-1	Acft:	F-16B	Time:	1.3
	Crew:	P/IP		

MISSION OBJECTIVES: Introduce F-16 handling characteristics, avionics displays and functions, confidence maneuvers, instrument procedures, instrument approaches, and landings.

SPECIFIC MISSION TASKS: MIL takeoff, SID, flight control function demonstration, avionics orientation, aircraft handling demonstrations, nose high recovery maneuver, vertical confidence maneuver, unusual attitude recoveries, TACAN holding, penetration and approach, ILS or GCA approach, overhead/closed patterns, touch and go landings, and full stop landing.

TR-2	Acft:	F-16B, F-16B	Time:	1.3
	Crew:	P/IP, P/IP		

MISSION OBJECTIVES: Introduce basic formation, lost wingman exercise, navigation using HUD and FCNP, advanced handling maneuvers, aerobatics, and SFO patterns. IFR recovery to ILS or GCA, review overhead traffic patterns, closed patterns, and touch and go landings. Practice confidence maneuvers and avionics demonstrations.

SPECIFIC MISSION TASKS: Single-ship Mil takeoff, formation joinup, basic formation (close/route/crossunders/echelon) for both aircraft, pitchouts and rejoins, lost wingman exercise. SPLIT: Confidence maneuvers, advanced handling maneuvers, aerobatics, unusual attitude recovery, IFR recovery, instrument approach, missed approach, SFO approaches, overhead/closed patterns, touch and go landings, and full stop landing.

TR-3 Acft: F-16B, F-16B Time: 1.3
Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce AB takeoff, tactical formations, formation instrument approaches, low approaches, and HUD-out approaches. Practice lost wingman exercise, overhead/closed patterns, and full stop landing.

SPECIFIC MISSION TASKS: Single-ship AB takeoff, formation join-up, departure, basic formation practice, tactical formation, lost wingman exercise, formation instrument recovery, formation approaches. Split: Overhead/closed patterns (at least one HUD-out) and full stop landing.

TR-4 Acft: F-16A, F-16A Time: 1.4
Crew: P, IP (chase)

MISSION OBJECTIVES: Solo flight in the F-16A. Practice confidence maneuvers, advanced handling maneuvers, basic/tactical formation, instrument approaches, SFO approach, traffic patterns, and landing. (Practice for TR-5).

SPECIFIC MISSION TASKS: Briefing, single-ship Mil takeoff, SID, enroute navigation, confidence maneuvers, advanced handling maneuvers, instrument steep turn, rejoin, formation review (basic/tactical), instrument recovery, instrument approach, SFO approach (IP chase), traffic patterns (low approaches), and full stop landing.

TR-5 Acft: F-16A, F-16A Time: 1.4
 Crew: P, SEFE (chase)

MISSION OBJECTIVES: Standardization/evaluation flight check to be flown IAW TACR 60-2.

SPECIFIC MISSION TASKS: Briefing, single-ship Mil takeoff, SID, enroute navigation, confidence maneuvers, advanced handling maneuvers, unusual attitude recoveries (if dual), instrument steep turn, rejoin, basic formation, tactical formation, TACAN holding, TACAN approach, missed approaches, ILS/GCA approaches, overhead traffic pattern, closed pattern, SFO approach, and full stop landing.

TR-6 Acft: F-16B, F-16B, Time: 2.0
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce night flying in the F-16. Introduce night ground ops, night formation, night air refueling, night intercepts, instrument approaches, and night landings.

SPECIFIC MISSION TASKS: Single-ship takeoff, join-up, basic formation, night AAR, night intercepts, single-ship precision approaches, touch and go landings, and full stop landing.

B. AIR-TO-AIR PHASE

1. SPECIAL INSTRUCTIONS FOR AIR-TO-AIR PHASE

- a. The goal of the BFM module is to provide all students with basic offensive and defensive proficiency and an exposure to engagements from a neutral set-up. The level of emphasis should vary according to student proficiency.
- b. Commensurate with student proficiency and aircraft/sortie availability, the squadron commander may approve the following:
 - (1) Offensive or defensive BFM sorties may be advanced to neutral set-ups.
 - (2) BFM-3 and/or 4 scenario difficulty may be increased to a 2 vs 1 D/ACM scenario.
 - (3) D/ACM scenario difficulty may be increased to D/ACT (1 vs 2 or 2 vs 1 only).

NOTE: In all cases, the proficiency level required must be met or exceeded before the student is allowed to advance to more difficult scenarios.

- c. If dissimilar aircraft are not available for D/ACM sorties, the missions may be flown against other F-16s. Student grade slips will be annotated to reflect the type aircraft that was actually fought.
- d. Maximum effort will be made to obtain dissimilar aircraft support for ACM training.
- e. DART may be flown with two, three, or four F-16As in lieu of using F-16Bs if sorties are available and the students have previous DART firing experience. Additionally selected DART patterns may be flown (race-track, figure-8, butterfly, etc.) commensurate with students' previous experience. DART qualification is required. One additional sortie may be flown for qualification.

- f. Students not qualified in DART after two sorties will not fly additional X missions solely for DART qualification. If two DART sorties are flown, the second sortie will be labeled DART-1X; however, it will not count as one of the total allowable X sorties. Training units will notify TAC/DOO and gaining units of students unqualified in DART.

2. INTERCEPT (INTCP) MODULE

INTCP-1 Acft: F-16B, F-16B Time: 2.0
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce radar trail departure, weapons system checks, GCI controlled intercepts, air-to-air refueling, and formation landing. Introduce/review cruise and combat energy management modes. Practice formation approaches.

SPECIFIC MISSION TASKS: Single-ship MIL takeoff, radar trail departure, weapons system check, join-up, basic/tactical formation, AAR rendezvous, AAR, collision course geometry (single turn conversions), horizontal stern conversions, tactical intercepts (proficiency permitting), review cruise/combat energy management, rejoin, formation recovery, and formation landing.

3. BASIC FIGHTER MANEUVERS (BFM) MODULE

BFM-1 Acft: F-16A, F-16A Time: 1.1
 Crew: IP, P

MISSION OBJECTIVES: Introduce formation takeoff, gun tracking exercise(s), setups for within visual range 1 v 1 offensive maneuvers, switchology/weapons employment, and combat separations.

SPECIFIC MISSION TASKS: Formation takeoff, weapons system check, tactical formation, gun tracking exercise(s), fence check, within visual range perch setups for offensive BFM maneuvers, overhead/closed pattern, and full stop.

BFM-2 Acft: F-16A, F-16A Time: 1.1
 Crew: IP, P

MISSION OBJECTIVES: Introduce setups for within visual range 1 v 1 defensive maneuvers. Practice weapons system check, gun exercise(s), switchology/weapons employment, combat separations, and formation takeoff.

SPECIFIC MISSION TASKS: Formation takeoff, weapons system check, tactical formation, gun tracking exercise(s), fence check, within visual range perch setups for defensive BFM maneuvers, overhead/closed pattern, and full stop.

BFM-3 Acft: F-16A, F-16A Time: 1.0
 Crew: IP, P

MISSION OBJECTIVES: Introduce setups for within visual range 1 v 1 neutral maneuvers. Practice weapons system check, gun exercise(s), and BFM.

SPECIFIC MISSION TASKS: Formation takeoff, weapons system check, tactical formation, fence check, BFM 1/2 review as necessary, within visual range neutral setups to practice BFM, combat separations, gun employment exercise(s), recovery, and landing.

BFM-4 Acft: F-16A, F-16A Time: 1.0
 Crew: IP, P

MISSION OBJECTIVES: Introduce beyond visual range tactical intercepts to 1 v 1 BFM. Practice BFM.

SPECIFIC MISSION TASKS: Formation takeoff, weapons system check, tactical formation, fence check, BFM 3 review as necessary, tactical intercepts from beyond visual range to BFM, combat separations, gun exercise(s), recovery, and landing.

4. DISSIMILAR/AIR COMBAT MANEUVERS (D/ACM) MODULE

D/ACM-1 Acft: F-16A, F-16A, Target Time: 1.1
 Crew: IP, P

OR

Acft: F-16B, F-16A, F-16A
Crew: P/IP, P, IP

MISSION OBJECTIVES: Introduce 2 v 1 D/ACM including a beyond visual range tactical intercept in tactical formation, coordinated attacks on the target, AIM-9 and gun employment, combat separations. Practice minimum fuel recovery and normal traffic pattern.

SPECIFIC MISSION TASKS: Takeoff, weapons system check, fence check, tactical formation, offensive gun exercise(s), tactical intercept to offensive advantage, offensive engagements, combat separations, landing.

D/ACM-2 Acft: F-16A, F-16A, Target Time: 1.1
 Crew: IP, P

OR

Acft: F-16B, F-16A, F-16A
Crew: P/IP, P, IP

MISSION OBJECTIVES: Introduce counteroffensive 2 v 1 D/ACM. Practice 2 v 1 coordination/communications and combat separations.

SPECIFIC MISSION TASKS: Takeoff, weapons system check, fence check, tactical formation, defensive gun exercise(s), target makes tactical intercept for an initial advantage, counteroffensive moves, engagements, separation, landing.

5. DART MODULE

DART-1 Acft: F-16D, F-16A, TOW Time: 1.2
 Crew: P/IP, P

MISSION OBJECTIVES: Introduce live firing of 20mm
against an airborne target.

SPECIFIC MISSION TASKS: Takeoff, formation departure,
tactical formation, rendezvous with tow aircraft, DART
firing patterns, instrument recovery, approach, overhead
pattern, and landing.

C. AIR-TO-SURFACE PHASE

1. SPECIAL INSTRUCTIONS FOR AIR-TO-SURFACE

- a. The student must accomplish at least two events to have an effective sortie.
- b. Students may accomplish computed high angle strafe as a substitute for computed low angle strafe when range conditions or other restrictions preclude accomplishing low angle strafe.
- c. Combining pilots on numerically different syllabus missions in the same flight is authorized provided mission events are compatible.
- d. All pop-up delivery parameters will be computed and flown in accordance with TACR 55-16.
- e. Although desirable, weapons qualification is not required.
- f. Local wing/squadron weapons sections should supply scenarios for each SAT mission.
- g. Flare/flare support should be used on either SAN-1 or SAN-2. If flare/flare support is unavailable, both SAN missions may be flown using ground illumination.
- h. If the initial night AAR occurs on SAN-2, the student will fly a B-model with an IP aboard.
- i. As a minimum, the following conventional weapons delivery events and computed modes should be exercised: HADB-DTOS, DB-DTOS and CCIP, LALD-DTOS and CCIP, LAB-CCIP.
- j. Commensurate with student proficiency and qualification, the squadron commander may approve that the SA-4 sorties be flown in a SAT scenario.
- k. Low altitude maneuvering with a drag index over 100 (wing tanks and 2 SUU-20s) will be accomplished on an SA sortie (preferably SA-1) with an IP in the rear cockpit before progressing to SAT.

2. AIR-TO-SURFACE DEFINITIONS

The following definitions apply throughout the entire surface attack spectrum.

- a. **Accurate Weapons Delivery:** Where possible, ground or airborne scoring of actual weapons deliveries will be accomplished using the conventional qualification criteria IAW TACM 51-50. In those cases where this criteria cannot be measured, the following film scoring of weapons delivery will apply.

1) **Switchology**

- Correct delivery mode selected
- Master Arm-On (Simulate for preplanned dry passes)
- Valid weapons release/release signal

2) **Sight Picture**

- Pipper/TD box dot and bomb fall line within hit criteria (measured in mils) at release/release signal.

3) **Release Parameters**

- Weapon release at or above minimum release altitude.

- b. **Minimum Release Altitude**

- IAW TACM 51-50

- c. **Qualification (Hit) Criteria**

- IAW TACM 51-50

- d. **Formation Integrity/Mutual Support:** The formation/individual was able to detect an airborne visual threat and provide adequate threat warning prior to threat aircraft reaching weapons employment parameters.

3. SURFACE ATTACK (SA) MODULE

SA-1 Ac ft: F-16B, F-16B Time: 1.5
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce LATN, visual fixtaking, surface attack computed weapons system checks, low altitude maneuvering. Introduce conventional weapons deliveries (DB, LALD, LAB, LAS) utilizing the CCIP, DTOS, and Strafe modes. Review the cruise energy management modes (Range, Endurance, HOM, Bingo). Introduce formation landing (if not previously accomplished).

SPECIFIC MISSION TASKS: Takeoff. SPLIT: LATN, updates (overfly/HUD), computed weapons system checks, low altitude maneuvering (high g sustained turns, breaks, route abort, and procedures entering/exiting the low altitude structure), conventional deliveries (DB, LALD, LAB, LAS) from box pattern, formation approach, formation landing.

SA-2 Ac ft: F-16B, F-16B Time: 1.5
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce radar low level flight planning, radar ground map scope tuning and interpretation, radar low level flight techniques, radar fixtaking and altitude calibrations. Introduce RLD and RLADD nuclear deliveries, and pop-up attacks. Recovery and formation landing.

SPECIFIC MISSION TASKS: Takeoff, weapons system check; SPLIT: Radar low level, radar update, radar altitude calibration, range entry, radar nuclear weapons deliveries (RLD, RLADD), conventional box (DB) and pop-up (LALD, LAB, LAS) weapons deliveries; formation recovery, formation instrument approach, formation landing.

SA-3 Acft: F-16A, F-16A, Time: 1.4
 F-16A, F-16A
 Crew: IP, P, P, P

MISSION OBJECTIVES: Introduce LATF, visual nuclear deliveries, and high altitude dive bomb (HADB). Practice conventional deliveries from tactical/pop-up patterns.

SPECIFIC MISSION TASKS: Mission planning, takeoff, weapons system check, fence check, LATN, LATF. Range entry, nuclear deliveries (VLADD, VLD) conventional deliveries (HADB from box pattern) using tactical/pop-up pattern. Tactical formation recovery, landing.

SA-4 Acft: F-16A, F-16A, Time: 1.4
 F-16A, F-16A
 (Baron, if available)
 Crew: IP, P, P, P

MISSION OBJECTIVES: Practice LATN/LATF, nuclear and conventional deliveries as required for proficiency/qualification.

SPECIFIC MISSION TASKS: Mission planning, takeoff, weapons system check, fence check, LATN/LATF. Range entry, nuclear deliveries, conventional deliveries using tactical/pop-up patterns. Tactical formation recovery, landing.

4. SURFACE ATTACK NIGHT (SAN) MODULE

SAN-1 Acft: F-16B, F-16B, Time: 2.0
 Flareship*
 Crew: P/IP, P/IP

MISSION OBJECTIVES: Introduce night weapons delivery in the F-16. Practice night formation, instrument approaches, and landings.

SPECIFIC MISSION TASKS: Single-ship takeoff, join-up, basic formation, night AAR (if not accomplished on TR-6), night range orientation, night weapons delivery with or without flares (DB and LALD), single ship precision approaches, full stop landing.

SAN-2 Acft: F-16A, F-16A, Time: 1.4
 Flareship*
 Crew: IP, P

MISSION OBJECTIVES: Practice SAN-1 tasks. Introduce night AAR if not accomplished on TR-6 or SAN-1 (F-16B required).

SPECIFIC MISSION TASKS: See SAN-1. Night AAR if not accomplished on SAN-1.

* Flareship on either SAN-1 or SAN-2.

5. SURFACE ATTACK TACTICS (SAT) MODULE

SAT-1 Ac ft: F-16B, F-16A Time: 1.3
 Crew: P/IP, P

MISSION OBJECTIVES: Introduce high threat tactics in the low altitude ingress and egress scenario. Introduce LATN/LATF (comm out), visual lookout responsibilities in a high threat environment, and defensive reactions to an air-to-air threat. Introduce tactical deliveries on an unmanned range. Practice radar trail departure, high and low angle deliveries on tactical targets.

SPECIFIC MISSION TASKS: Takeoff; radar trail departure; join-up; LATN/LATF (comm out); defensive reactions to offensive air threats; tactical ingress to tactics range (low altitude); tactical deliveries; tactical egress; tactical formation recovery; landing.

SAT-2 Ac ft: F-16B, F-16A Time: 1.3
 Crew: P/IP, P

MISSION OBJECTIVES: Practice limited comm/comm jam procedures in a high threat scenario. Practice tactics, defensive reactions, LATN, LATF. Practice tactical deliveries on an unmanned range against tactical targets simulating a high threat environment.

SPECIFIC MISSION TASKS: Takeoff, radar trail departure, join-up, LATN, LATF (limited comm/comm jam practice desired), defensive reactions to offensive air threats, tactical deliveries, tactical egress, tactical formation recovery, landing.

ATTACHMENT III
IP COURSE SYLLABUS

DEPARTMENT OF THE AIR FORCE
Headquarters Tactical Air Command
Langley Air Force Base, Virginia 23555

TAC SYLLABUS
Course F16001

INSTRUCTOR PILOT UPGRADE TRAINING COURSE

F-16

MAR 81

INTRODUCTION

This syllabus prescribes the overall training strategy and approximate amount of instruction required for a student having the entry prerequisites to attain the course goals and graduate. Units tasked to implement this syllabus are responsible for insuring that each student graduated possesses the attitudes, knowledge, skills, and levels of proficiency set forth in the course training standards. Within syllabus and other directive constraints, the amount and level of training devoted to mission elements, events, subjects, or phases should be adjusted, as required, to meet the needs of individual students.

Instructions governing publication and revision of TAC syllabi are contained in TACR 8-1.

OFFICIAL

W. L. CREECH, General, USAF
Commander

FREDERICK A. CROW, Colonel, USAF
Director of Administration

Supersedes F16001 Syllabus, APRIL 80

OPR: TAC/DOOTG

OPDR: OLAG 4444 Ops Sq (F-16 OFD Team, Hill AFB, Utah 84055)

DISTRIBUTION: X

CHANGE NOTICES:

DATE

CHANGE NO.

AFFECTED PAGES

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DISTRIBUTION: X

<u>Total Cys:</u>	<u>Cys:</u>	<u>BASES/ORGANIZATIONS</u>
2	2	<u>BERGSTROM AFB</u> <u>12AF/DOOT</u>
1	1	<u>CANNON AFB</u> <u>27TFW/DO5/F-111D</u>
1	1	<u>CLARK AB, RP</u> <u>13 AF/DOOT</u>
2	2	<u>DAVIS-MONTHAN AFB</u> <u>OLAC, 4444 Ops Sq (OTD)/A-10/GLCM</u>
1	1	<u>EGLIN AFB</u> <u>3245 TEST WING/TEOFD</u>
1	1	<u>GEORGE AFB</u> <u>35 TFW/DO5/F-4G</u>
2	2	<u>HAHN AB, Germany</u> <u>50 TFW/DO</u>
2	2	<u>HICKAM AFB</u> <u>PACAF/DOOT</u>
130	100 30	<u>HILL AFB</u> <u>388 TFW/DO</u> <u>OLAG, 4444 Ops Sq (OTD)/F-16</u>
1	1	<u>HOLLOMAN AFB</u> <u>479 TTW/DOTD/AT-38</u>
1	1	<u>KADENA AB, JAPAN</u> <u>313 AD/DOOT</u>
1	1	<u>KIRTLAND AFB</u> <u>AFTEC/TEBS</u>

DISTRIBUTION X (Continued)

<u>Total Cys:</u>	<u>Cys:</u>	<u>BASES/ORGANIZATIONS</u>
26	15	<u>LANGLEY AFB</u>
	1	TAC/DOOTG
	1	TAC/DOOTR
	1	TAC/DOOS
	1	TAC/DOVF
	1	TAC/ACMC
	1	TAC/XPMQ
	1	TAC/IGIO
	1	TAC/DPRO
	1	TAC/SE
	1	TAC/INAS
	1	TAC/HO
	1	4444 Ops Sq/CC
4	1	<u>LUKE AFB</u>
	1	58 FTW/DOFD/F-4
	1	405 FTW/DO5/F-15
	2	OLAK, 4444 Ops Sq (OTD)/TACS/TNG AIDS
100	100	<u>MACDILL AFB</u>
		56 FFW/DO
2	1	<u>MAXWELL AFB</u>
	1	AUL/LSE
	1	AJ/LD
1	1	<u>RAF MILDENHALL, UK</u>
		3 AF/DOOT
2	1	<u>MOUNTAIN HOME AFB</u>
	1	OLAF, 4444 OPS Sq (OTD)/EF-111
	1	366 FFW/DO/F-111A
6	1	<u>NELLIS AFB</u>
	1	USAF FFWC/TA
	1	57 FWW/DO
	2	474 FFW/DO
	2	OLAD, 4444 Ops Sq (OTD)/EWIT
2	2	<u>OSAN AB, KOREA</u>
		314 AD/DOOT

DISTRIBUTION X (Continued)

<u>Total Cys:</u>	<u>Cys:</u>	<u>BASES/ORGANIZATIONS</u>
2	2	<u>RAMSTEIN AB, GERMANY</u> USAFE/DOOT
1	1	<u>SENBACH AB, GERMANY</u> 17 AF/DOOT
4	2 2	<u>SHAW AFB</u> 9 AF/DOOT 363 TRW/DO
1	1	<u>TORREJON AB, SPAIN</u> 16 AF/DOOT
8	1 1 1 1 1 1 1 1 1	<u>HQ/USAF</u> USAF/PAID USAF/XOOTT USAF/XOOTD USAF/XOXFT USAF/LEYY USAF/ACMS USAF/ACBI NGB/XOO
2	2	<u>WILLIAMS AFB</u> AFHRL/OTR
2	2	<u>YOKOTA AB, JAPAN</u> 5 AF/DOOT

LIST OF ABBREVIATIONS

AAR	Air Refueling
BFM	Basic Fighter Maneuver
CFT	Cockpit Familiarization trainer
DACM	Dissimilar Air Combat Maneuvers
DACT	Dissimilar Air Combat Tactics
EPT	Egress Procedures Trainer
IP	Instructor Pilot
IT	Instructor Training
NAAR	Night Air Refueling
SA	Surface Attack
SAN	Surface Attack Night
SAT	Surface Attack Tactics
SIM	Simulator
ST	Specialized Training
TR	Transition
UIP	Upgrade Instructor Pilot

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SECTION I: GENERAL INFORMATION

A. GENERAL DESCRIPTION

1. Course Title: USAF Instructor Pilot Upgrade Training Course, F-16.
2. Course Number: F16001
3. Purpose: To upgrade qualified F-16 Pilots to Instructor Pilots in the F-16 aircraft.
4. Location: 333 TFW, Hill AFB, Utah.
56th TFW, MacDill AFB, Florida.
5. Duration: 5 GFD; 21 FTD; 26 total.
6. Status Upon Completion: After satisfactory completion of this course, graduates will be prepared to instruct in all F-16 formal course modules of training except D/ACT.
7. Course Prerequisites: Upgrade Instructor Pilot selectees will be current in the F-16 and must be qualified for selection IAW TACM 51-50, Volume I, Chapter 6.
8. Graduation Proficiency: Upgrade Instructor Pilots who fail to attain the proficiency level required by this syllabus will be processed IAW TACM 51-50, Vol I, Chapter 6, para 6-30.

B. COURSE INVENTORY

1. ACADEMICS

HOURS

Specialized Training	5.5
Aircraft General	3.0
Air-to-Air Employment	7.0
Air-to-Surface Employment	8.0
Review/Test	4.0
Principles and Techniques of Instruction	<u>12.5</u>
TOTAL	40

2. AIRCREW TRAINING DEVICES

Egress Procedures Trainer (EPT)*	1.0
Cockpit Familiarization Trainer (CFT)*	3.0
Operational Flight Trainer (OFT)	<u>6.0</u>
TOTAL	10.0

* Not required if accomplished within the previous 90 days.

3. FLYING TRAINING

<u>STUDENT MISSION NUMBER</u>	<u>MSN. FLT. TIME</u>	<u>DIRECT SUPPORT SORTIES</u>	<u>OTHER SUPPORT SORTIES</u>	<u>ACFT. PER STUDENT F-16A/F-16B</u>
TR-1	2.0		TANKER	0/1
TR-2	2.0		TANKER	0/1
BFM 1	1.0			.5/.5
BFM 2	1.0			.5/.5
BFM 3	1.0			.5/.5
DART	1.4		TOW	.5/.5
D/ACM 1	1.0	1	TGT	2/0
D/ACM 2	1.0	1	TGT	2/0
SA-1	1.4			0/1
SA-2	1.4			.5/.5
SA-3	1.4			.5/.5
SAN	1.4			0/1
SAT-1	1.4		FAC	.5/.5
SAT-2	1.4			.5/.5
<hr/>				
TOTAL: 14	18.8	2		8/8

4. FLYING MODULE SUMMARY

	<u>SORTIES</u>	<u>HOURS</u>
Conversion Phase	2	4.0
Air-to-Air Phase	5	6.4
BFM Module		
DART Module		
D/ACM Module		
Air-to-Surface Phase	6	8.4
SA Module		
SAN Module		
SAP Module		
	—	—
TOTAL	14	18.8

5. WEAPONS/RANGE REQUIREMENTS

<u>SORTIE</u> <u>NR</u>	<u>20MM</u> <u>AMMO</u>	<u>BDU</u> <u>33</u>	<u>MK</u> <u>106</u>	<u>MK</u> <u>82</u>	<u>RANGE UTILIZATION</u> <u>TYPE/PASSES/HR</u>
BPM 1					A/A N/A .5
BPM 2					A/A N/A .5
BPM 3					A/A N/A .5
D/ACM 1					A/A N/A .5
D/ACM 2					A/A N/A .5
DART	250				A/A 4 .5
SA-1	150	8			Manned/11/.8
SA-2	150	8	4		Manned/15/.3
SA-3	150	8	4		Manned/15/.8
SAN		8			Manned/8/.5
SAT-1	150	8	or	6	Unmanned/8/.5
SAT-2	150	8	or	6	Unmanned/4/.5
TOTALS	1000	40	8	6	

NOTE: At least one SAT sortie will be flown with heavyweight ordnance. MK82's or other aircraft certified (inert) ordnance may be employed to fulfill heavyweight requirement.

6. AIRCRAFT CONFIGURATIONS

Assumptions:

- a. IPs flying "A" model aircraft or in the front seat of "B" model aircraft may fly any configuration approved in T.O. IF-16A-1.
- b. A "B" model aircraft may be substituted for an "A" model aircraft on any mission.
- c. When certified, a TER may be substituted for one SUJ-20 on T.O. IF-16A-1 approved configurations.
- d. A single SUJ-20 or one SUU-20 and MAU-12 (on opposite wings) may be flown in lieu of two SUJ-20s with CAT-III limiter or when an IP is aboard the aircraft.
- e. Acceptable combined configurations are any combination of loads shown on the following matrix except configurations five and six (wing tanks and centerline tank).

Configuration legend:

- 1 - Clean
- 2 - One/two AIM-9s on stations 1 and 9
- 3 - Centerline pylon
- 4 - MAU-12s on stations 3 and 7
- 5 - Centerline tank
- 6 - Two wing tanks
- 7 - SUJ-20s on stations 3 and 7
- A - Acceptable
- D - Desired
- R - Required

Configuration Matrix:

Configurations -	1	2	3	4	5	6	7
<u>Phase/Sortie</u>							
TR-1	A	A	A		D		
TR-2	A	D	A	A	A	A	
BFM, D/ACM, D/ACT (A)	D	D	A		A		
BFM, D/ACM, D/ACT (B)	A	D	A		D		
DART (A)	D	D	A	A	A	A	(Note 1)
DART (B)	A	D	A	A	D	A	(Note 1)
SA, SAN, SAT		D	A		A	D	R (Note 2)

Notes:

1. Configurations 4 and 6 may not be combined.
2. On SAT missions, SUU-20s except when heavyweight inert ordnance is required.

SECTION II: COURSE MANAGEMENT

A. TRAINING STANDARDS AND GRADING CRITERIA

1. General. The goal of each instructor course is to provide instructors who can combine demonstration, management, and commentary to meet the student training requirements specified in other formal flight training courses. Demonstration, management, and commentary are defined as follows:

a. Demonstration: Individual performance of the maneuver or task with the intent to provide instruction.

b. Management: The planning, conduct, and control of a mission. The ability to anticipate, recognize, and analyze student errors or needs and to apply appropriate corrective action.

c. Commentary: The communicative skills (directive, instructive, or corrective in nature) which satisfy student needs and mission objectives.

2. Course Training Standards: The following TACR 50-31 grading criteria is designed to relate directly to Course Training Standards and will be used to evaluate instructional and performance tasks. Instructional tasks are unique to the instructor upgrade syllabus; therefore, instructional performance task standards are defined by Criterion-Referenced Objectives, Section VI. Course training standard for this syllabus is defined by a grade of 2.

GRADE

EXPLANATION OF GRADE

Unknown

Performance not observed or the task was not performed.

Dangerous (D)

Performance was unsafe. One element on the AF Form 1363 marked "Dangerous" will result in an overall grade of zero (failure).

<u>GRADE</u>	<u>EXPLANATION OF GRADE</u>
0	Performance indicates a lack of ability or knowledge required to accomplish the event.
1	Performance is safe but indicates limited proficiency. Makes errors of commission or omission.
2	Performance is essentially correct. Recognizes and corrects errors.
3	Performance is correct, efficient, skillful, and without hesitation.

3. Overall Grade. The overall grade reflects the UIP's performance in relation to the mission objectives listed in this syllabus.

<u>GRADE</u>	<u>EXPLANATION OF GRADE</u>
D	Overall performance was unsafe.
0	Unsatisfactory performance or UIP received 0 on one or more sortie tasks.
1	Marginal performance. UIP does not meet standards for all module tasks requiring proficiency.
2	Satisfactory performance. UIP achieved performance standard specified for all module tasks requiring proficiency and is ready to advance.
3	Excellent performance. UIP exceeded performance standard specified for all module tasks and is ready to advance.

4. Academic Training Standards. Each major phase of academic instruction will be evaluated by written examination, problem solving or oral questioning. The minimum passing score is 85 percent on written tests or satisfactory on oral or problem solving exercises. A passing grade is required prior to completion of each phase. All academic examinations will be corrected to 100 percent.

B. GENERAL INSTRUCTIONS

1. Waiver Authority: Unless otherwise indicated, HJ PAC/DO is the waiver authority for sorties/events in the syllabus.
2. Squadron commanders may authorize deviations in the order of training to meet special weather and peculiar local conditions consistent with flying safety practices, student progress, and student experience level.
3. Once introduced, flying tasks may be practiced on subsequent missions at IP discretion.
4. Missions designated as requiring an F-16A may be flown in an F-16B as long as the mission objectives are achieved.
5. Briefings:
 - a. Phase briefings will be conducted prior to class entry into each phase of training. There are three (3) phases of training in this syllabus: Conversion, Air-to-Air and Air-to-Surface. There are three (3) individual modules within the Air-to-Air phase, and three (3) individual modules within the Air-to-Surface phase. Phase briefings are conducted to familiarize the UIP with the general content of the phase of instruction, training materials available, applicable regulations, and other pertinent information.
 - b. Flight management (planning, briefing, conduct) will include stringent attention to mission objectives. Mission objectives and UIP needs are closely related.
 - c. The UIP will demonstrate proficiency in flight briefings by briefing at least one mission per module. Schedulers and supervisors must closely control and monitor the schedule so that each UIP is afforded the opportunity to satisfy this requirement. If, through unforeseen circumstances or module size (DART, SAN), this cannot be accomplished, the UIP will present the specific mission portion of the briefing to an IP prior to progression from that phase. The briefings will place emphasis on mission tasks as though the simulated student has not previously accomplished the tasks.

d. Debriefings must make use of all training aids available. Specifically, HUD camera film and tape recorders, if available, will be used on all air-to-air missions.

6. Additional instructional sorties due to a student not attaining the prescribed standard are limited to three per phase and four for the course (e.g., TR-IX). Sorties beyond the phase limit must be approved by the Wing Deputy Commander for Operations (information copy to NAF/DO and TAC/DOO). Sorties beyond the course limit must be approved by TAC/DO. An additional flying instructional sortie is defined as a mission generated to provide training to correct a specific deficiency in an element or elements identified on a previous instructional sortie. These instructional sorties will be briefed and flown so as to concentrate fully on deficient item(s), and will not be considered as evaluation check rides. This is not to be construed as a requirement to provide these additional sorties. The Wing Commander, at his discretion, may initiate elimination proceedings when in his judgement that action is appropriate.
7. Proficiency Standards: A minimum grade of 2 as defined in this manual must be achieved on each new task within each module prior to successful completion of that module. Additionally, an overall grade of 2 must be achieved in BFM and SA sorties before the student can progress to D/ACM and SAT respectively.
8. Missions in which the student performance meets the acceptable standard, but all syllabus directed tasks were not accomplished, may be designated as effective/incomplete if omitted items may be performed on future missions with no degradation to training.
9. One day and one night, rear cockpit Air Refueling is required during this course.

C. COURSE MAP

1. GENERAL

The following course map shows the prerequisites for each flying sortie in the syllabus. The relationships between blocks of instruction are indicated by arrows. Before a block of instruction can be accomplished by a student, he must have successfully completed all prerequisite blocks.

2. SPECIAL INSTRUCTIONS

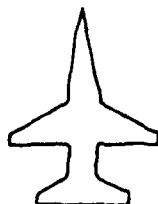
- a. The course map is read from bottom to top.
- b. Prerequisites for each block of instruction are represented by solid arrows leading into that block. Dashed blocks indicate a prerequisite which should have been completed in another location on the course map.
- c. The management flow chart reflects the optimum pathway through the Course Map. The purpose of a course map is to provide training managers with some scheduling flexibility. TR-1 must be completed first, then either Air-to-Air or Air-to-Surface tracks may be initiated.
- d. The following symbols are used in the course map and represent the blocks of instruction as indicated:



EPT, CFT



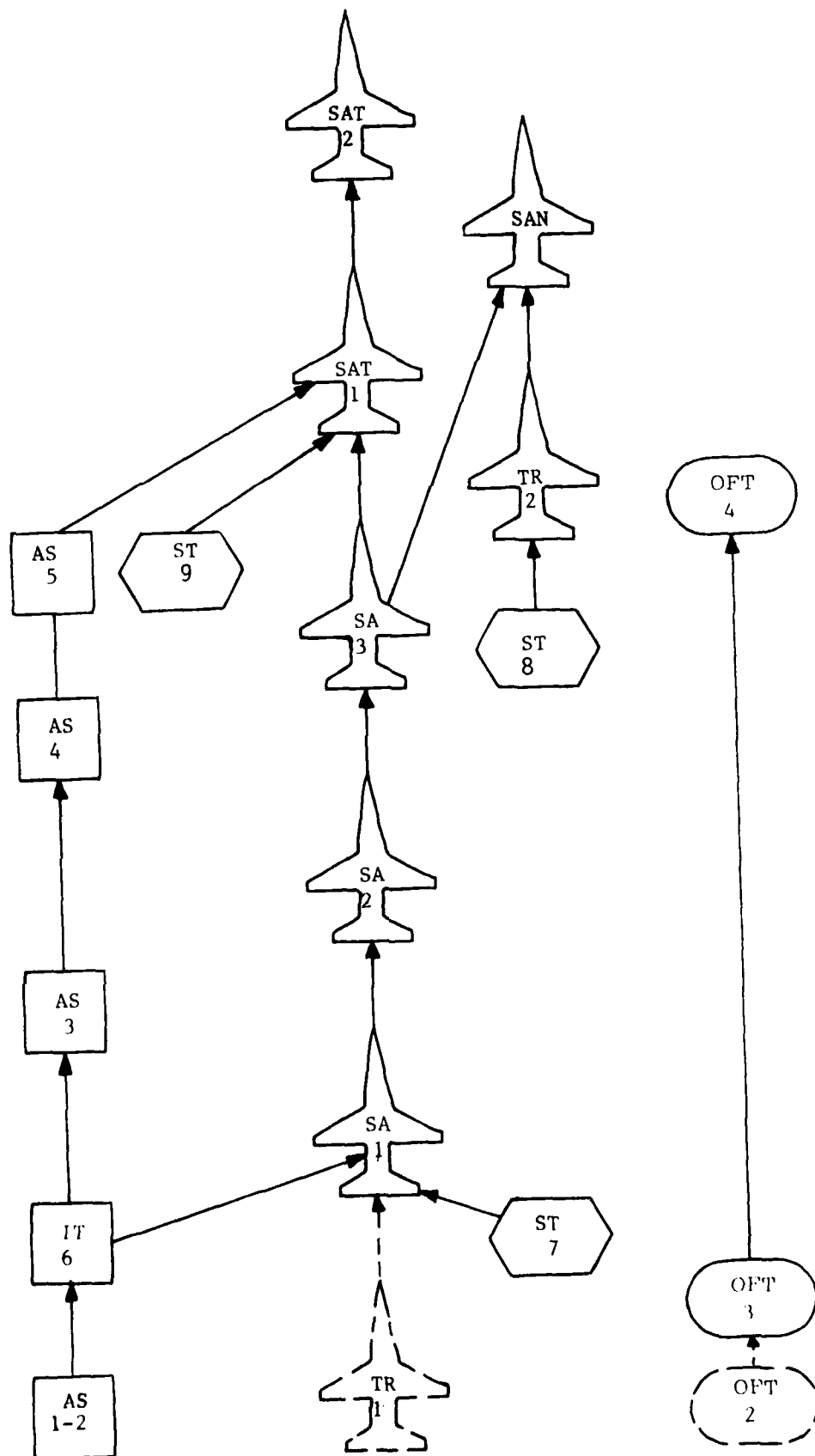
ACADEMICS



FLIGHT/SORTIE



SPECIALIZED TRAINING



D. MANAGEMENT FLOW CHART

1. GENERAL

The management flow chart is designed to assist course managers in scheduling student activities throughout the course. It should also be used by the student to insure he paces himself efficiently, and accomplished prerequisite training no later than the required date and in the proper order. The flow chart represents the optimum path through the course map; however, deviations are authorized so long as the student adheres to the prerequisites shown on the Course Map.

2. TRAINING DAYS

Several assumptions were made to determine a "typical" training day on the management flow chart. The assumptions considered were time spent completing academic lessons, attending training device sessions, or flying training sorties. They are listed below:

- a. A typical training day is scheduled to include approximately eight hours of training.
- b. Six hours are allotted for each training flight.
- c. Individual academic lesson times from Section III were included to determine the length of each day.
- d. Special squadron meetings other than those listed as specialized training are not included in the typical training day.
- e. Two flying training sorties are programmed for each three day period in the course.

TRAINING DAYS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A C A A D E M I C S	Squadron	ST 1-3			ST 4		ST 5								ST 6	ST 7
	Classroom		IT 1-3	AG 1-3	AA-1 IT-4	AA-2 AA-3 IT-5			AA 4			AA 5	AS 1	AS 2	IT 6	AS 3
P T A R A T I N A E S R A R A T I N A E S R K	EPT	EPT														
	CFT	CFT 1	CFT 2													
	Simulator			OFT 1	OFT 1				OFT 2	OFT 2						
F L T							TR 1	BFM 1		BFM 2	BFM 3		D/ACM 1	D/ACM 2		DART

TRAINING DAYS		16	17	18	19	20	21	22	23	24	25	26			
A C A A D E M I C S	Squadron					ST 8			ST 9						
	Classroom		AS 4			AS 5									
P T A R T I T N A E S R K	EPT														
	CFT														
	Simulator		OFT 3	OFT 3					OFT 4	OFT 4	OFT 4	OFT 4			
F L T															
		SA 1		SA 2	SA 3		TR 2	SAN		SAT 1	SAT 2				

SECTION III: ACADEMIC TRAINING

A. GENERAL

1. This syllabus contains specific items to be covered in each academic block of instruction. The academic block of instruction sequencing will progress in accordance with the relationship depicted in the Course Map and Management Flow Chart. This schedule ensures correct interface of academic, simulation device, and flying training.

2. Critiques for the academic blocks of instruction will be forwarded for review to the F-16 Operations Training Development (OTD) Team. All suggestions for course modification will be reviewed by the F-16 OTD Team and, if approved, will be integrated into the academic syllabus.

B. SPECIALIZED TRAINING

SR-1	Lecture
Sq Briefing Room	.5

ADMINISTRATION: Commander's welcome; overview of base; in-processing details.

Sf-2	Lecture
Classroom	.5

COURSE OVERVIEW: Introduction; flow; training aids; documents; student responsibilities.

ST-3
Learning Center

Lecture/VR
.5

LOCAL AREA ORIENTATION: Airfield information; local flying area; flight plan requirements; required items for flight; use of transition area airspace; local air traffic control zones; prohibited flying areas; VFR traffic patterns and reentry; controlled bailout area; diversion/recall procedures; alternate airfields. (Not required if previously complied with in local flying area.)

ST-4
Classroom

Lecture
.5

CONVERSION PHASE BRIEFING.

ST-5	Lecture
Classroom	1.0

AIR-TO-AIR PHASE BRIEFING.

ST-6	Lecture
Classroom	.5

DART PHASE BRIEFING.

ST-7	Lecture
Classroom	1.0

AIR-TO-SURFACE PHASE BRIEFING.

ST-8	Lecture
Classroom	.5

NIGHT CONVERSION AND SURFACE ATTACK NIGHT PHASE BRIEFING.

ST-9	Lecture
Classroom	.5

COMMUNICATIONS SECURITY: Understand the importance of communications security as it pertains to F-16 flying.
(Not required if accomplished in course F1600FX.)

C. AIRCRAFT GENERAL (AG)

AG-1	Flt Characteristics Classroom	Lecture 1.0
AG-2	Avionics Classroom	Lecture 2.0
AG-3	Review/Test/Critique Classroom	1.0

D. AIR-TO-AIR-EMPLOYMENT (AA)

AA-1	Intercepts Classroom	Lecture 2.0
AA-2	BFM Classroom	Lecture 2.0
AA-3	Air-to-Air weapons Classroom	Lecture 2.0
AA-4	D/ACM Classroom	Lecture 1.0
AA-5	Review/Test/Critique Classroom	1.5

E. AIR-TO-SURFACE EMPLOYMENT (AS)

AS-1	Conventional WPN Del Classroom	Lecture 2.0
	a. Dive Bomb Problem b. Error Analysis c. Computed Systems	
AS-2	Nuclear Wpn Del Classroom	Lecture 2.0

AS-3 Pen Aids
Classroom

Lecture
2.0

AS-4 Tactics
Classroom

Lecture
2.0

1. Threat
 - a. Air
 - b. Surface
2. Type Missions
 - a. Interdiction
 - b. Strike
 - c. CAS

AS-5 Review/Test/Critique
Classroom

1.5

H. PRINCIPLES AND TECHNIQUES OF INSTRUCTION (IT)

IT-1	INSTRUCTIONAL THEORIES AND STRATEGIES	Lecture
Classroom		1.0

Instructional methods; qualities of a good instructor; instructional delivery effectiveness; instructor and student relationships; evaluation versus instruction; student grade sheets; TAC grading criteria; common grading problems.

IR-2 F1600B/TX COURSE SYLLABUS ORIENTATION Lecture
Classroom 1.0

Orientation: F-16 course development, course entry pre-requisites, student background, status upon completion, breakdown of flying training inventory, general instructions (acceleration feature, X missions, excessive delays, etc.), course map, types of instruction (workbooks, audio slides, etc.), and academics/flight line interface.

IT-3	FLIGHT BRIEFING/DEBRIEFING	Lecture
Classroom		1.5

Level; scope; content; organization; training aids; time utilization.

IF-4 INSTRUCTING CONVERSION Lecture
Classroom 2.0

Techniques for instructing instrument procedures; aircraft handling; traffic patterns and landings; SFO's; air refueling; formation; navigation/fixtaking; night procedures.

IP-5	INSTRUCTING AIR-TO-AIR	Lecture
Classroom		4.0

Instructing intercepts; instructing the objectives of offensive, counter offensive, and neutral BFM in a 1 v 1 or multi-bogey environment. Instructing the mechanics of BFM with use of all available training aids (i.e., chalkboards, models, hands, etc.). Instructing dissimilar/air combat maneuvering and tactics.

IP-6 INSTRUCTING AIR-TO-SURFACE
Classroom

Lecture
3.0

Instructing weapons employment on both conventional and tactical ranges with respect to air-to-surface configurations, instructing F-16 maneuvering and formations, navigation, aircraft maneuvering limits, types of attacks, re-attacks, threat reaction, communications jamming procedures.

SECTION IV: AIRCREW TRAINING DEVICES

A. EGRESS PROCEDURES TRAINER (EPT)

EPT-1	(IF REQUIRED FOR CURRENCY)	DEMO
Life Support		1:1 Ratio
		1.0

LIFE SUPPORT: Emergency ground egress procedures; ejection and canopy jettison procedures; hanging harness.

B. COCKPIT FAMILIARIZATION TRAINER (CFT)

CFT-1	(IF REQUIRED FOR CURRENCY)	DEMO
		1:1 Ratio
		1.5

MISSION OBJECTIVES: Practice all emergency and normal procedures.

SPECIFIC MISSION TASKS: Accomplish all normal and emergency procedures in realistic situations as directed by the IP.

CFT-2	(IF REQUIRED FOR CURRENCY)	DEMO
		1:1 Ratio
		1.5

MISSION OBJECTIVES: Demonstrate proficiency in normal and emergency procedures to a STAN/EVAL Flight Examiner.

SPECIFIC MISSION: Administered by STAN/EVAL for TACR 50-2 requirement.

C. OPERATIONAL FLIGHT TRAINER (OFT)

1. Special Instructions

Simulator Missions are waived until the Operational Flight Trainer (OFT) is available.

2. OFT-1 INSTRUCTOR STATION (Part One) 1:2 Ratio
1.5

- a. Mission Initialization
- b. CRT Page Review
- c. CRT Page Modification
- d. Keyboard Operations
- e. Lightpen Operations
- f. Emergency Shutdown

3. OFT-2 INSTRUCTOR STATION (Part Two) 1:2 Ratio
1.5

- a. Demonstrations
- b. Record/Playback
- c. Hardcopy
- d. Performance Monitoring
- e. Procedure Monitoring
- f. Cockpit Configuration Discrepancy Monitoring
- g. Parameter Freeze
- h. Simulator Freeze
- i. Modifying Mission Parameters

4. OFT-3 INSTRUCTOR STATION (Part Three) 1:2 Ratio
1.5

- a. Tactics Mission File
- b. Console - Operated Air Interceptor (AI)
- c. AI options
- d. Air-to-Air Weapons Scoring
- e. Ground Targets
- f. Ground Target Modifications
- g. Air-to-Surface Weapons Scoring
- h. Surface-to-Air Engagements Scoring

5. OFT-4 PRACTICAL EXERCISE

1:1
1.5

UIP is supervised and evaluated by IP as he conducts B or TX syllabus simulator mission with an actual B or TX student. If a student is unavailable another IP may perform the student's role.

SECTION V: FLYING TRAINING

A. CONVERSION PHASE

FR-1 Acft: F-16B, F-16B Time: 2.0
 Crew: IP/UIP, IP/UIP

MISSION OBJECTIVES: Introduce the UIP to instructing selected demonstrations, confidence maneuvers, aerobatics, and advanced handling maneuvers. Introduce UIP to instructing AAR, formation work, instrument procedures, instrument approaches and landings, SFO, normal VFR overhead patterns and landings.

SPECIFIC MISSION TASKS: Briefing, rear cockpit AB takeoff, formation joinup (no. 2), SID, tanker rendezvous, AAR, basic and tactical formation practice, pitchouts and rejoins, SPLIT: flight control demonstration, confidence maneuvers, advanced handling, aerobatics, unusual attitude recoveries, IFR recovery, ILS/GCA approaches to touch and go landings, SFO, normal VFR overhead patterns to touch and go landings, and full stop landing.

FR-2 Acft: F-16B, F-16B NIGHT Time: 2.0
 Crew: IP/UIP, IP/UIP

MISSION OBJECTIVES: Introduce the UIP to instructing at night in basic formation, GCI controlled intercepts, NAAR, instrument approaches and landings.

SPECIFIC MISSION TASKS: Briefing, MIL takeoff, radar trail departure, joinup, tanker rendezvous, NAAR, formation practice, pitchouts and rejoins, GCI intercepts, instrument approaches, SPLIT: Single ship ILS/GCA approaches to touch and go's, full stop landing.

B. AIR-TO-AIR PHASE

Special Instructions:

1. BFM may be flown dissimilar.
2. Maximum effort should be made to obtain dissimilar aircraft support.
3. Commensurate with student proficiency and sortie availability, the Squadron Commander may approve that BFM 3 be increased to D/ACM and the D/ACM sortie scenario difficulty be increased to a D/ACT (2V1, 1V2 or 2V2).

BFM-1 Acft: F-16A, F-16B Time: 1.0
Crew: UIP, IP/UIP

MISSION OBJECTIVES: Introduce the UIP to instructing self set-up intercepts, within visual range 1 v 1 basic fighter maneuvers (offensive), weapons delivery parameters, and separations. Introduce UIP to chasing in the traffic pattern.

SPECIFIC MISSION TASKS: Briefing, observe formation takeoff for UIP in no. 2, formation departure, weapons system check, intercepts, within visual range set-ups for BFM maneuvers, recovery, #1 UIP chase IP in traffic pattern, landing. #2 UIP prepare AF Form 1363 on IP.

BFM-2 Acft: F-16A, F-16B Time: 1.0
Crew: UIP, IP/UIP

MISSION OBJECTIVES; Introduce the UIP to instructing self set-up intercepts, within visual range 1 v 1 basic fighter maneuvers (defensive), weapons delivery parameters, separations. Introduce UIP to chasing in the traffic pattern.

SPECIFIC MISSION TASKS; Briefing, observe formation takeoff for UIP in no. 2, formation departure, weapons system check, intercepts, within visual range set-ups for BFM maneuvers, recovery, #1 UIP chase IP in traffic pattern, landing. #2 UIP prepare AF Form 1363 on IP.

BFM-3 Acft: F-16A, F-16B Time: 1.0
Crew: UIP, IP/UIP

MISSION OBJECTIVES: Introduce the UIP to instructing BFM from neutral set-ups.

SPECIFIC MISSION TASKS: Briefing, formation takeoff, weapons system check, gun exercises, tactical intercept, within visual range set-ups for neutral BFM, recovery and landing.

DACM-1 Acft: F-16A, F-16A, TGT Time: 1.0
Crew: UIP, IP

Optional Acft: F-16A, F-16B, F-16A
Crew: UIP, IP/UIP, IP

MISSION OBJECTIVES: Introduce the UIP to instructing and controlling 2 v 1 tactical intercept to an offensive engagement against a single (dissimilar) aircraft. From a self setup, introduce the UIP to instructing 2 ship offensive engagements against a single (dissimilar) aircraft.

SPECIFIC MISSION TASKS: Briefing, takeoff, weapons system check, tactical formation, tactical intercept, offensive engagements, combat separations, recovery, landing. UIP prepares AF Form 1363 on IP.

DACM-2 Acft: F-16A, F-16A, TGT Time: 1.0
Crew: UIP, IP

Optional Acft: F-16A, F-16B, F-16A
Crew: UIP, IP/UIP, IP

MISSION OBJECTIVES: Practice instructing and controlling 2 v 1 tactical intercept to an offensive engagement against a single (dissimilar) aircraft. From a self setup, introduce the UIP to instructing 2 ship defensive engagements against a single (dissimilar) aircraft.

SPECIFIC MISSION TASKS: Briefing, takeoff, weapons system check, tactical formation, tactical intercept, defensive engagements, combat separations, recovery, landing. UIP prepares AF Form 1353 on IP.

DART Acft: F-16A, F-16B, Tow Time: 1.4
Crew: UIP, UIP/IP

MISSION OBJECTIVES: Introduce the UIP to instructing in the DART pattern.

SPECIFIC MISSION TASKS: Briefing, formation takeoff, formation departure, weapons system check, tactical formation, rendezvous with tow aircraft, figure eight, butterfly, and/or combat DART firing patterns while #2 UIP chases and instructs; change roles and reaccomplish DART pattern while #1 UIP chases and instructs; recovery, landing.

Note: May be flown as 3 or 4 ship flight.

C. AIR-TO-SURFACE PHASE

Special Instructions:

1. All pop-up delivery parameters will be computed and flown in accordance with TACR 55-16.
2. Ordnance for SAF-1 or SAF-2 should be 6 MK 32's or similar type. The intent is for the JIP to instruct at least one heavy weight mission.
3. SA-2, 3, and SAF-1, 2 may be flown effectively with a minimum of two aircraft as long as all mission tasks are accomplished.
4. Schedulers and supervisors should ensure that every JIP brief and lead a four ship flight in this phase.

SA-1 Acft: F-16B, F-16B Time: 1.4
 Crew: IP/JIP, IP/JIP

MISSION OBJECTIVES: Introduce JIP to instructing low altitude maneuvers and awareness. Introduce JIP to instructing aircraft handling in the bombing pattern. Introduce JIP to instructing manual deliveries and error analysis on a manned range.

SPECIFIC MISSION TASKS: Briefing, takeoff, low altitude tactical formation instruction, ridge crossing techniques, low altitude awareness training; box pattern roll-ins and recoveries; pop pattern roll-ins and recoveries; error analysis and corrective commentary; recovery and landing.

SA-2 Acft: F-16A, F-16B, F-16A, F-16B Time: 1.4
 Crew: JIP, IP/JIP, JIP, IP/JIP

MISSION OBJECTIVES: Introduce the JIP to instructing and controlling a four ship surface attack mission on a manned range. Introduce JIP to instructing computed weapons deliveries.

SPECIFIC MISSION TASKS: Briefing, takeoff, low altitude tactical navigation and formation (LATN, LATF); nuclear events, conventional events using box and curvilinear delivery patterns; formation instrument approaches; #2 and #4 JIP observe formation landing and prepare AF Form 1353 on IPs.

SA-3 Acft: F-16A, F-16B, F-16A, F-16B Time: 1.4
Crew: UIP, IP/UIP, UIP, IP/UIP

MISSION OBJECTIVES: UIP practice instructing and controlling a four ship surface attack mission on a manned range.

SPECIFIC MISSION TASKS: Briefing, takeoff, LATN, LATF, nuclear events, conventional events using box and pop-up patterns; formation instrument approaches, #2 and #4 UIPs observe formation landing. #2 and #4 UIPs prepare AF Form 1363 on IPs.

SAW Acft: F-16B, F-16B Time 1.4
Crew: IP/UIP, IP/UIP

MISSION OBJECTIVES: Introduce the UIP to instructing night surface attack on a manned range.

SPECIFIC MISSION TASKS: Briefing, radar trail for No. 2 UIP, night formation, medium altitude navigation, conventional events with ground marking devices and/or airborne flares, formation instrument approaches, instrument approaches and landings (UIP).

SAT-1 Acft: F-16A, F-16B, F-16A, F-16B Time: 1.4
Crew: UIP, IP/UIP, UIP, IP/UIP

MISSION OBJECTIVES: Introduce UIP to instructing and controlling a four ship tactics mission in a low threat scenario, low threat attack patterns, pop-up attack, AAA and SAM reaction.

SPECIFIC MISSION: Briefing, takeoff, weapons check, medium altitude tactical formation, fence check, medium altitude ingress, rendezvous with FAC and FAC control (if available), computed deliveries from a floating wheel, circular, or figure eight pattern, single ship pop-up attack, HAS, road recce, AAA and SAM threat reaction, recovery; #2 and #4 UIPs observe formation landing (if not previously accomplished). #2 and #4 UIPs prepare AF Form 1363 on IPs.

SAT-2

Acft: F-16A, F-16B, F-16A, F-16B

Time: 1.4

Crew: UIP, IP/UIP, UIP, IP/UIP

MISSION OBJECTIVES: Introduce UIP to instructing and controlling a four ship tactics mission in a high threat scenario, communications jamming reaction, and EW/threat reaction.

SPECIFIC MISSION: Briefing, takeoff, weapons check, LAFN with FCNP updates, comm jamming, ingress to a tactical range, formation attack from an IP within TUF criteria, egress target area with mutual support, accomplish a second different attack, egress target with mutual support, airborne threat and SAM reactions during ingress, target area, and egress as required by scenario; recovery, #2 and #4 observe formation landing (if not previously accomplished). #2 and #4 UIPs prepare AF Form 1363 on IPs.

SECTION VI: CRITERION REFERENCED OBJECTIVES
F-16 INSTRUCTOR TASK

TASK	CONDITIONS	STANDARDS
Briefing: Organization	Syllabus tasks to be performed, mission objectives, simulated student level of experience, briefing guide	Brief the standard and mission specific items in a clear and logical order. No confusion exists among flight members as to mission sequence, individual flight responsibilities, and training to be accomplished.
Briefing: Content	Syllabus tasks to be accomplished, mission objectives, simulated students level of performance, briefing guide	Brief all standard items pertinent to the mission in as much detail as required for the simulated student(s) experience level. Brief simulated student problem areas or common problem areas as appropriate. Techniques and procedures presented are commensurate with simulated student's experience and proficiency and are explained in adequate detail.
Briefing: Presentation	Briefing Guide, training aids, syllabus mission tasks, simulated student level of experience	Delivery techniques, (speech, mannerisms, etc.), adequate to maintain interest. Uses briefing aids when appropriate to add to presentation. Terminology and method of presentation are appropriate for simulated student's experience level.

Briefing:
Time Utilization

Syllabus tasks,
mission objectives,
simulated student's
experience level

Begin briefing no later than two minutes after scheduled start time. Finish briefing no later than ten minutes prior to step time. Briefing time denoted to each phase of briefing and time for simulated student's proficiency level.

Flight
Management

Briefed tasks,
simulated student
performance

Plan and execute a scenario which permits accomplishment of mission objectives. If required, modify mission to adjust to student needs or unplanned contingencies. When required, direct flight to insure accomplishment of required tasks in a timely, fuel efficient manner. Adheres to all limitations/restrictions contained in appropriate regulations.

Demonstration
Ability

Briefed tasks,
specified parameters

Performs task in accordance with Phase Manual description and in accordance with all applicable regulations/local procedures. When commentary is included, it does not detract from the performance of the task.

Instructor Commentary	Briefed task, stated parameters, simu- lated student per- formance	Provide descriptive or directive commen- tary at an appropri- ate time relative to the task being per- formed. Vocabulary and terminology used are appropriate to experience level of simulated stu- dent(s). Pacing and delivery permit com- prehension by the student.
Recognize and Analyze Errors	Briefed tasks, simulated student performance, stated parameters	Identifies devia- tions/errors in pro- cedures, techniques, or performance. Correctly analyzes and evaluates needs and determines pro- per corrective ac- tion, (demo, commen- tary, coaching, etc). Corrective action adequate and timely.
Mission Reconstruction/ Analysis	Syllabus mission objectives, mission conduct, debriefing guide	Accurately recon- structs flight ac- tions, maneuvers, engagements during the mission. Pro- vides concise com- mentary on correct and incorrect per- formance and identifies areas for improvement/lessons learned as appro- priate.

Performance Evaluation Ability	Syllabus mission objectives, required standards, simulated student performance	Accurately evaluates student performance in relation to accepted standards. Correctly determines whether mission objectives are accomplished.
Debriefing Presentation/Control	Mission objectives, debriefing guide, simulated student	Maintains positive control of debriefing. Does not allow debriefing to digress from mission critique. Use of training aides appropriate and adds to debriefing. Vocabulary and terminology appropriate to simulated student experience level. Adequately covers all pertinent events performed.
AF Form 1363 Preparation	Simulated student performance, AF Form 1363	Completes form in accordance with applicable regulations. Comments used to document analysis of student performance are concise and easily understood. Comments neat and grammar acceptable. Grades assigned are commensurate with performance evaluation.

**DAT
FILM**